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# THE FOCAL SPOT

CANADIAN SOCIETY OF RADIOLOGICAL TECHNICIANS

SCIENTIA ET MORES

JOURNAL OF THE CANADIAN SOCIETY OF RADIOLOGICAL TECHNICIANS

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# News Items from the Provinces

## ALBERTA DIVISION
## C.S.R.T.

### CALGARY SECTION

The January meeting was held at the Colonel Belcher Hospital in the form of a business meeting. A skating party had been planned but due to the weather it was cancelled. Final plans for the annual banquet on January 29th, were drawn up and with the co-operation of all it turned out to be a huge success. A cocktail party, attended by a large group of radiologists, technicians and their friends, was followed by dinner. Mr. J. Welch proposed the toast to the Radiologists, to which Dr. B. Murphy replied. Later dancing until the wee hours of morning was enjoyed by all.

Dr. J. S. Gardner was guest speaker at our February meeting. He illustrated his interesting topic, "The Rehabilitation of the Handicapped," by the use of slides.

At our March meeting films taken at last year's International Convention were shown, as well as a very enjoyable movie entitled "They Dance Again," which was filmed at the Junior Red Cross Hospital in Calgary.

Dr. T. A. Bell, Radiologist at the Colonel Belcher Hospital, spoke on "Pneumoarthography" at the April meeting. Plans were also discussed concerning the coming Alberta Provincial Convention, which is to be held on May 29th, 1954.

Miss Donna Gainer, past president of the Calgary C.S.R.T., is leaving for the States where she will be married in May. The best of wishes go with Donna from all of us. She has been a very active member of the Calgary group.

There has been 100% attendance at the lectures provided for the students. These take place each Monday evening and Wednesday afternoons at the Colonel Belcher Hospital. Mr.

*Continued p. 58*

### EDMONTON BRANCH

At the February meeting of the Edmonton Society a short talk on Tomography was given by Miss Eileen Kerr from the Aberhardt Sanatorium. This proved very instructive to the students.

The guest for the evening of the March Association meeting, Dr. Duggan, radiologist from the University Hospital, showed slides and gave a talk on his tour through Europe. This was most interesting and our thanks go to Dr. Duggan. At the same meeting, the film on the International Convention, prepared by the Kodak Co., was shown by Mr. Gordon Berry. This helped to give the members who were not able to attend the convention an idea of what was accomplished and the procedures discussed.

An excellent lecture entitled "Planning an X-Ray Department," was given at the April meeting by Mr. Martin, the G.E. service man in this locality. Also at this meeting Mr. Baxter from the Alberta Tuberculosis Association explained the advantages and operative principles of this Association.

Congratulations go to the successful candidates from Edmonton who wrote their R.T. examinations in November. At this time we extend best wishes to all students who write in May and hope they pass. At the same time we welcome all the new students and hope to get better acquainted at our regular meetings and classes during the year.

Preparations are under way for the Provincial Convention which is to be held in Calgary late this spring. Members of the Edmonton Society are compiling resolutions to be discussed. You will be hearing more about this in the next issue of *The Focal Spot*.

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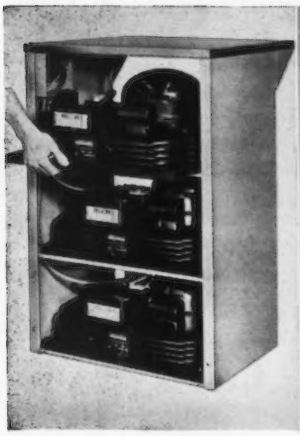

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### FOURTH ANNUAL MEETING

Since the last publication of *The Focal Spot* the B.C. Division has been quite busy in both branches with meetings being held each month.

The highlight of the recent meetings was the Annual Meeting which was held on March 6th. This proved to be quite important and much was accomplished. Dr. W. L. Sloan, President of the B.C. Division of the C.A.R., brought us a word of welcome from the radiologists. Miss Mary Harrison did the introductions in a very nice manner. Mr. S. Mel Smith brought best wishes of the C.S.R.T. Miss Pat Rogers from the Vancouver Branch and Mr. Len Ludwig from the Victoria Branch. Mr. Jerry Saunders, as President of the B.C. Division, welcomed all members and then took over the meeting for the business session. This session lasted all morning and dealt with many matters. Following this a Dutch treat luncheon was enjoyed at the Vancouver General Hospital Cafeteria. However, our good friend Gordon Hamblin of Kodak paid for most of the diners and this was much appreciated.

Mr. Mel Smith was chairman for the afternoon session which was devoted to the Educational Programme. Dr. C. E. Robinson spoke on "Clinical Aspects of Rheumatic Disease." Mrs. Norma Ross, R.T., spoke on, "Recent Developments in the Field of Angiocardiography." Dr. J. A. Falkins spoke on "Dental Radiography Need Not be Difficult." All speakers were properly introduced and thanked for their contributions to a very enjoyable afternoon. Following this a post-convention meeting of the executive was held. Mr. Stirling presented a Gavel and Board to the B.C. Division at the beginning of the meeting and was thanked on behalf of the members by Mr. Jerry Saunders.

The Annual Dinner and Dance was held at Capilano Gardens on the other side of the water from Vancouver. Miss Marjorie Macbean was Chairman of the convention committee and she and her committee did a wonderful job. Cocktails were served at 6.30 and a wonderful smorgasbord dinner at 7.30. Mr. Stirling was chairman. He introduced Dr. Wally Boyd of the V.G.H. and asked him to introduce the speaker for the evening in the person of Dr. Roger Wilson. Dr. Boyd did so in a few appropriate words. Dr. Roger Wilson gave an illustrated lecture on the ancient city of Petra which was quite a change from a technical one. After an attentive hearing Mr. Stirling thanked Dr. Wilson for a most enjoyable address. At this point Mr. Saunders presented Mr. Stirling with a beautiful electric clock suitably inscribed, as a token of the appreciation of the members of the B.C. Division.

Following this dancing got under way and during the dancing the film of the International Meeting in Toronto was shown. The dancing kept on until the early hours of the morning and all were most emphatic in stating that the Fourth Annual Meeting was one of our best ones.

A special meeting called by the executive for March 27th was held to discuss the draft of the new Legislative Act which we are endeavouring to bring into force in B.C. After a full discussion the bill was passed and the committee will now place it before the Legislative Assembly in Victoria for adoption at this session if possible.

Four members of the Washington State X-Ray Society came to our meeting on the 6th and we retaliated by having eight of our members on hand for their Annual Meeting on April 3rd. We all benefitted from the exchange of friendships and hope that this may be the forerunner of an excellent future for such meetings.

Mr. Len Ludwig is retiring from the Victoria presidency to take up duties in the R.C.A.F. All members take this opportunity of wishing him the very best in his new uniform.

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BETTER THINGS FOR BETTER LIVING... *THROUGH CHEMISTRY*

*B.C.—from p. 52*

Miss Shirwell has left Drs. Turnbull, Dickey and Sloan to go to Dr. Brook's office. Miss Sugars has left St. Paul's Hospital and is now at Dr. Ireland's office on Broadway.

Mr. Bill Brown, who has been a tower of strength in helping with our student members, is leaving D.V.A. to take a temporary job before trying to take a course in Medicine. Bill will be very greatly missed by the Vancouver Branch.

We regret to announce the illness of Mr. Colin McKenzie, and Mr. Bill Hood, the secretary's husband, and wish them both a speedy recovery.

The April meeting of the Vancouver Branch was very well attended with about forty-five members. Miss Marcia Tanner spoke on X-Ray of Small Animals. This proved to be a different and interesting address which was much enjoyed by all members. Miss Bailey introduced Miss Tanner and Mr. Stirling thanked her for giving us an insight into a different field of x-ray.

The officers of the B.C. Division for 1954 are as follows:

President—W. Q. Stirling.
First Vice-President—J. C. Saunders.
Second Vice-President—Miss Mary McMillan.
Secretary—Mrs. E. I. Hood.
Treasurer—Miss Florence Endreny.

—W. Q. STIRLING, R.T.,
Sub-Editor.

## MANITOBA DIVISION
## C.S.R.T.

The January meeting of the C.S.R.T. (Manitoba Division) was highlighted by a very lively discussion about alterations to be made in the prcceedings at the Graduation Banquet and Dance, held in February. In order to overcome the regrettable absenteeism of many graduates, it was decided that the students in their second year of training would be honored as well as those who have successfully completed their examinations. There were 26 graduates and 25 second-year students in the class. Each one received a gift certificate for the purchase of his or her C.S.R.T. pin as a concrete token from the local society. This gesture was acclaimed by the students as being preferable to the presentation of corsages and boutonnieres as was done in previous years.

A film, "Road to Recovery," produced by the Sanatorium Board of Manitoba, was shown illustrating the work of that organization. Beginning with the detection of tuberculosis during a routine chest survey, the picture followed the patient through his treatment at a sanatorium to complete recovery and rehabilitation. This film was produced for the purpose of showing the public how a patient can be happy working at a provided occupation during his comparatively long hospitalization, and prepare him for a suitable position after discharge.

The Graduation was a grand success with 180 tickets either sold or complimentary. Dr. Hildes, the director of the Civic Hospitals, was guest speaker for the evening. He spoke of the exceptional work done by the employees at the King George Hospital during the 1953 polio epidemic. Dr. Hayter, Radiologist from Deer Lodge Hospital, addressed the graduates, soliciting a healthful attitude towards their chosen profession. Miss Toupin, a student who trained at St. Boniface General Hospital, presented the Valedictory address. Don Wright's orchestra rounded out the evening with a couple of hours of dancing music which was pleasantly gratifying to everyone.

The March meeting introduced a new idea into the regular sessions. The various x-ray servicemen who are associate members of the Society have agreed to give papers under the general heading of "What's New." Mr. Howard Anderson from X-Ray and Radium Industries, Ltd., was selected as the speaker at this meeting. He chose, as his subject, "Angiography," and gave an interesting account of the history of serial radiography and its development into the latest apparatus, now in use at the Hospital for Sick Children, Toronto, which is capable of taking as many as 80 A.P. and lateral films simultaneously at a rate of 8 per second. Two

*continued p. 103*

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## NEW BRUNSWICK SOCIETY OF X-RAY TECHNICIANS

The first meeting of the 1954 season of the New Brunswick Society of X-Ray Technicians was held at Saint Joseph's Hospital, Saint John, N.B., on Wednesday, January 27th, at 8.15 p.m. We had a good attendance of thirty members, in spite of (or maybe because of) the snowstorm which next day reached blizzard proportions.

Our first let-down was the fact that our President—Mrs. Helen MacMaster—submitted her resignation, and was not in attendance. However, the chair was most capably filled by our Vice-President, Miss Barbara MacLean. Miss MacLean will continue to preside at our meetings until the end of our annual year. It was unanimously agreed we should extend to Mrs. MacMaster a written word of thanks for all the time and effort she has contributed to our Society.

Fourteen new member applicants were accepted as Student Members. We extend a cordial welcome to the following and wish them every success during their two year training period: Marion Smith, Victoria Public Hospital, Fredericton, N.B.; Norma Walker, Joan Ronald, Noreen Shillington, Donald Bursey, and Joan Duncan, all of Saint John General Hospital, Saint John, N.B.; Shirley Craig, Rita Carlin and Donna Martin, all of Moncton Hospital, Moncton, N.B.; Rochelle LeBlanc, Rose Hooley, Honorine McEacheron, Shirley Steen and Eleanor Wilson, all of Saint Joseph's Hospital, Saint John, N.B.

Mr. Liston reported that plans are well on the way for the 1954 C.S.R.T. Convention. The Admiral Beatty Hotel in Saint John has been engaged for this occasion and the dates are September 1st, 2nd, 3rd and 4th, 1954. Committees have been set up and you are urged to watch *The Focal Spot* and the mails for further information.

At our last meeting some members felt we would have a better attendance at our meetings if we met in the middle of the week. Consequeintly, this meeting was called for Wednesday. This evening the matter again came up for discussion and it was revealed that the majority on this occasion preferred reverting to Saturday for getting together, as it was definitely inconvenient to lose a half day and possibly more in the middle of the week.

We hear that Cupid has been around again. We wish every happiness for the future to Miss Clare Marie McGrath who will be married very soon (how can we get along without our efficient Treasurer?). Best wishes are also extended to Miss Joan Meinert of Hotel Dieu, Chatham, N.B. We understand that the R.C.A.F. is responsible for this "sure hit" by Cupid.

We were very sorry to learn that Mr. Norman Heald of X-Ray and Radium Industries, Ltd., had transferred to Halifax. We shall miss him at our meetings. However, we are pleased to have situated in Saint John another representative from X-Ray and Radium in the person of Mr. Richard Jackson who transferred to Saint John from Halifax.

We were entertained this evening by a showing of two films—first, we saw "a Christmas Party"—the faces seemed familiar and when we saw Dr. Petrie we knew it was the annual Christmas party of the staff of the X-Ray Department at Saint Joseph's Hospital. The other film was a 20 minute feature entitled "Cancer—Watch It Grow." Our thanks to Mr. Robert Eardley-Wilmot who so capably operated the projector for the evening.

The first spring (?) meeting of the New Brunswick Society of X-Ray Technicians was held at Moncton Hospital Conference Room on April 3rd, at 8.15 p.m. (The doubt in this being a spring meeting lies in the fact that spring seems to be a little late in the East this year!)

The meeting was well attended with approximately 32 members present. Barbara MacLean presided in her usual efficient manner.

Reports from Committee Chairmen showed that plans are progressing exceptionally well for the Annual C.S.R.T. Convention in Saint John on September 1st-2nd-3rd-4th, 1954. K. Creelman, Programme Chairman, stated that a few more entries for technical papers would be welcome—so any technicians feeling the urge to appear on the 1954 programme, please hurry with an entry so we shall have a well rounded out programme.

*Continued p. 103*

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# NOVA SCOTIA DIVISION C.S.R.T.

## HALIFAX BRANCH

The February meeting of the Halifax Branch was held at the Halifax Infirmary on the first Wednesday. The technical programme consisted of a symposium on "Intravenous Pyelography" which was prepared and presented by students: "Review of Anatomy and Physiology of the Kidneys" by Miss Sheila Kiley; "Preparation of Patients and Use of Compression" by Miss Lois Cameron; "Contrast Media" by Miss Marion Robertson; "Reactions (Handle with Care)" by Miss Reni Echt; "Infants and Children in Intravenous Pyelography" by Miss Ruth Purdy. Miss Purdy is an affiliate student from Halifax Children's Hospital, doing part of her course at Halifax Infirmary; Misses Kiley, Cameron, Robertson and Echt are Infirmary students. The symposium was followed by some rather interesting discussion, one suggestion being that planigraphy is very useful in pyelography, to cut out abdominal gas shadows. At the business meeting it was moved and seconded that the technicians should not wear their white uniforms on the street—at least in the business sections—this in support of regulations which the Registered Nurses' Association enforces on its own members. A committee was elected to study and decide what, in the way of scientific items, the Nova Scotia Division could offer towards the C.S.R.T. Convention in Saint John this year. This committee met another day and arrived at a few decisions as to a display of films and two or three papers.

At the March meeting we were guests of the Naval Hospital "H.M.C.S. Stadacona." At this meeting, Surgeon-Commander Roberts gave a really wonderful lecture on the Civil Defense situation in Halifax—how an atomic explosion would affect this particular area, and what are the plans and precautions that have been worked out by the local Committee. At the following business meeting, there was no new business discussed, but the old question arose again as to reinstatement of members who had allowed their dues to lapse over a period of years. It wa decided to apply for a copy of the "C.S.R.T. Rule Book" so that both the Halifax Branch and the Sydney Branch could keep one on hand in the secretary's file.

There is not too much "news" except that the training of students is going on apace, with a new schedule worked out in co-operation between the Victoria General Hospital and the Naval Hospital, with pooling of instructors. Probably the Tuberculosis Hospital will also be affording some clinical experience in chest work. The Halifax Infirmary is continuing its programme, with a short affiliation in pediatric radiography at Halifax Children's Hospital. Training grants have been made available for student technicians, by the Department of Health; this is on a contract basis and calls for two years' successful training and two years' service in the hospitals of Nova Scotia. Naturally, not every student feels prepared to assume such obligations. It has been announced that a Cobalt Therapy Unit is soon to be installed at the Victoria General Hospital for use in connection with the Cancer Clinic.

Our April meeting will be at Camp Hill Hospital, April 7th. Resolutions for the C.S.R.T. 1954 Annual Meeting will be the chief business —we think we have one or two really interesting items this year.

We close with a hearty endorsement of the New Brunswick Society's invitation to "Come down to the sea" in September.

—JEAN UNDERWOOD, R.T.,
Sub-Editor.

*Cape Breton, N.S.—p. 103*

*CALGARY—from p. 50*

C. Bridgeman has completed a series of Physics lectures, Mr. C. Berry on "Darkroom Techniques," and Dr. T. A. Bell is at present giving a series of Anatomy lectures.

It was with great sorrow that we received the news of the death of Mr. Edward Hoare in March. Mr. Hoare was a life member of the C.S.R.T. —WANDA E. McNAMEE, R.T.,
Sub-Editor.

*EDMONTON—from p. 50*

A wonderful time was had by all at a dance at Club Anton. A vote of thanks to the social committee for their efforts to make this evening such a success.

A vote of thanks and appreciation goes to Mr. G. Hall, our president, and to all the members for their splendid and untiring work while in office. —ADELLE PHILLIPS, R.T.,
Sub-Editor.

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# The Focal Spot

*Journal of the Canadian Society of Radiological Technicians*

LESLIE J. CARTWRIGHT, R.T.
EDITOR

*Volume 11* — *TORONTO 1954 NO. 2* — *Issue No. 42*

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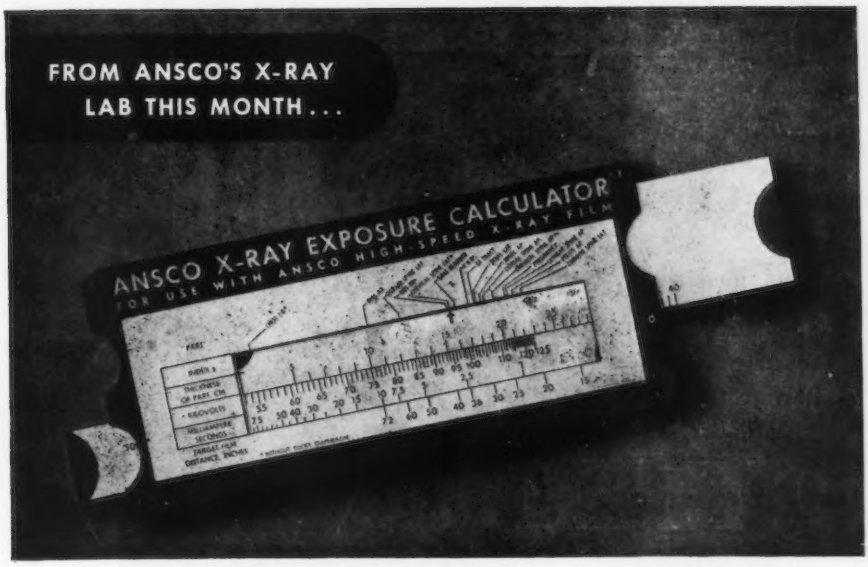


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The Focal Spot

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"All our ambitions should be devoted to a faithful fulfilment of duties towards others as well as to ourselves."—Roentgen.

LESLIE J. CARTWRIGHT, R.T.
EDITOR

Volume 11 TORONTO 1954 NO. 2 Issue No. 42

# A New Color-Radiographic Process

By J. M. BLAIS, M.D., and A. K. SCHWERIN, M.D.*
University of Montreal

BLACK and white radiography is based on the appreciation of one variable only: density. Color Radiography adds a second variable: Color (hue, brightness, saturation); therefore increased ability of detail differentiation. As color is a quality of *visible* light, x-rays do not transmit it and the colors obtained by any color radiographic process have no resemblance to colors of the original, but serve to distinguish by increased contrast various types and thicknesses of tissue or other material examined. All attempts to introduce and justify color-radiography in practice are based on the physiological fact that the human eye is more sensitive to changes in color than to changes in brightness. However, the shift from one color to another must have a certain analytical significance, otherwise it would confuse rather than clarify a given diagnostic problem.

Earlier attempts to produce direct Color-Radiographs (Donnavan, Gross, Fine) could not establish a definite relationship between colors formed and physical characteristics of the examined object.

The present process on the other hand produces a scale of distinguishable colors by one exposure, in which each color represents a different intensity of x-rays after their passage through an absorbent medium of unknown characteristics.

The principle of the present process is as follows: A color film of well-known structure, preferably a negative color film, is sandwiched between two special intensifying screens and exposed in the usual manner. After exposure and processing in special working solutions the film presents an extended scale of colors, fulfilling the above conditions.

The two intensifying screens, different in their structure, each produce a fluorescent light of selected spectral distribution and these color values register on the adjacent film layer. The phosphor compounds of these screens have to be chosen in such a manner that they represent a differential "response" (excitation) to various x-ray wave-lengths. Furthermore the spectral sensitivity of the different emulsion layers of the color film, that is the shape of their characteristic curves, has to be likewise taken into account.

It should be mentioned, that variations in the intensity of the fluorescent light and therefore variations in hues will be produced not only by increase or decrease of the number of x-ray photons absorbed by the screens, but also by a change in their relative energy. When a heterogenous x-ray beam penetrates an absorb-

* Summary of a paper describing color radiography being done experimentally at the University of Montreal, presented at the recent C.A.R. Convention.

ent medium, the proportion of its soft radiation components will diminish with increasing thickness, conforming to the laws of general absorption.

On the other hand, most of the phosphors with high response to x-rays are particularly sensitive to harder or softer radiation, i.e., their fluorescence intensity depends both on the quantitative and qualitative character of the radiation absorbed by them. As a consequence the resulting color is related to the two components of an x-ray beam, its intensity and its spectral composition.

The exposed color film may be processed in a quick and simple manner by utilization of three chemical solutions. Total processing time for a negative color film: 13-15 minutes. Color Radiographs taken through a step wedge show a continuous shift from dark blue (corresponding to weak absorption) through violet, brown, red, to yellow, (corresponding to high absorption). Supplementary colors may be added. The sensitivity of the process, i.e., the shift, appreciable by the eye, from one color to another, is high, especially in the region of weak absorption. Therefore slight structural changes caused by alteration of absorption characteristics in the tissue, may be recognized from an early onset.

The principle involved in the present process may likewise be applied to stereoradiography and fluoroscopic techniques, using the various devices of electronic amplification.

# Sidney George Johnston

1892 - 1954

*WITH the recent passing of our good friend and fellow technician, Sidney Johnston, the Saskatchewan Division of the C.S.R.T. has lost one of its earliest pioneers. "Sid" as he was commonly known, was particularly interested in student training, but his wide field of information and experience contributed much to student and graduate technician alike. Through the years he gave precious time and thought to our society and its problems.*

*Sid was born in England in 1892 and came to Canada in 1911. Settling in the West at Calgary, Alberta, he started working in the Calgary General Hospital, where he became interested in a Western Electric gas tube outfit, which in turn led to his studying of electricity at night school. In 1913 he moved to Moose Jaw, Saskatchewan, where he became technician on the staff of the General Hospital, now the Union Hospital. He remained here for the rest of his life, witnessing the growth of x-ray work from its infancy to that of the present day.*

*He was a member of the Royal Arch Masons, Doric Lodge, No. 71, and the Moose Lodge. Sid, a keen sports enthusiast, was one of the founders of the Moose Jaw Canuck Junior Hockey Club. He held office as President of the Saskatchewan Division of the C.S.R.T. several times and has been on the executive in an official capacity since its formation. He was one of the original organizers.*

*Sid will be long remembered by his fellow workers for his earnestness, sincerity and integrity. He leaves for us a shining example of devotion to duty. No words at this time can express the feeling that this tragic loss will mean to our division and to the associate divisions of the C.S.R.T.*

*On behalf of the C.S.R.T. we extend to Mrs. Johnston and members of the family our sincere and deepest sympathies on the loss of a beloved husband and father.*

*—C.B.J.*

# Trouble Shooting in the Darkroom

By JULIAN C. DENNY, R.T., and NEIL J. LYONS, R.T.
Portland, Oregon

IN an x-ray department, there are three main factors in the production of good radiographs: (1) equipment, (2) positioning and exposure, and (3) darkroom technique. The last two are the concern of the technician, while the first is usually in the hands of the service man. In this paper, we shall deal with the unusual problems which arise in the darkroom. Because the routine phase of the darkroom work has been very well covered in many previous papers and reference books, it will not be thoroughly discussed at this time.

"A sheet of modern x-ray film is the end product of many years of research and development. It is an extremely sensitive material specifically designed to record with adequate contrast the minute variations in density required for radiographs of maximum diagnostic value.

"X-ray film should be handled with considerable care, as the very qualities that make it most sensitive and useful in radiography also increase its sensitivity to other influences."[1]

The two most common difficulties encountered in the darkroom prior to the development of the films are static and fog. There are three general classifications of static marks: those produced by friction, those produced by pressure and those resulting from a combination of both friction and pressure. The most easily identified of the three is that produced by friction and has the appearance of a twig or tree (Figure 1a). The marks resulting from pressure are dark, smoky, irregularly shaped areas and are classified as smudge static. They have the appearance of a mildew growth (Figure 1b). This smudge static is particularly noticeable on films that have remained in a cassette for several hours before removing. The prolonged close contact of the film and screens produces a condition for the production of a potential upon opening a cassette. This potential will discharge when a cassette is opened but is not enough to produce the common tree-like flashes. When both friction and

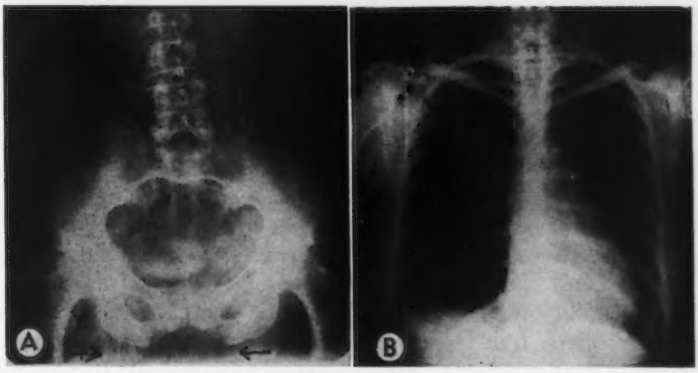


Fig. 1. (a) Tree static on lower edge of film. (b) Smudge static on upper third of film.

From the Portland Clinic, Portland, Oregon.
Presented at the First International Convention of X-Ray Technicians, CSRT and ASXT, June 29, 1953, Toronto. This paper won the third NEMA Award and was read by Julian C. Denny.

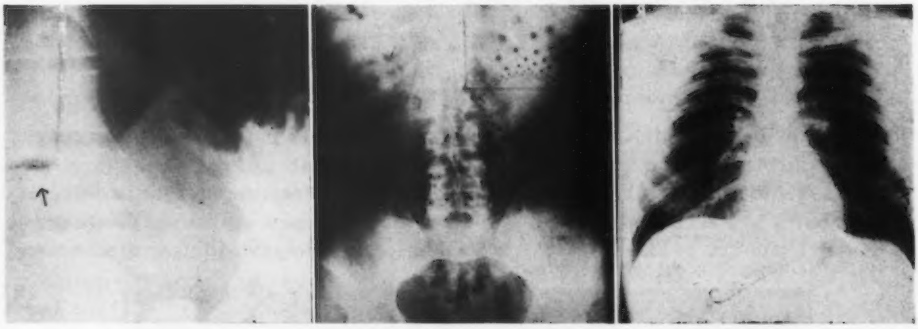

Fig. 2. An isolated area of crown static.
Fig. 3. Numerous smudge static marks. Note static marks caused by the edges of the film identifier coming in contact with the film.
Fig. 4. Static marks from the clamps of cassette. Film was laid on back of cassette prior to loading.

pressure are the cause of static, the markings appear like smudge static with branching lines extending out from the centre, giving the artefact the appearance of a crown. Figure 2 shows some typical crown static. In Figure 3, there is some smudge static as well as static marks outoutlining the edge of the film identifier. The markings in Figure 4 resulted from laying an unexposed film on the top of a cassette.

The first step in attempting to control static is to keep the relative humidity of the darkroom above 50 per cent. The preferable range is from 60 to 65 per cent. "If this cannot be done, then handle your film slowly and carefully, keeping in mind that you are handling an expensive and highly sensitive product that can only register its protest against careless mishandling by the creation of numerous artefacts that are so exasperating to all concerned."[2] When a cassette is unloaded, it should be opened slowly and then allowed to stand with the clamps released for a few seconds. This will minimize the production of smudge static. The rapid removing of the film from the cassette or the interleaving paper produces the tree-like static. A second major step in limiting static marks is to slow down in the handling of the films once they have been removed from the cassette.

Because dust particles and abrasions on the intensifying screens are conducive to static, the screens should be inspected and cleaned frequently. Pure grain alcohol, soap and water, and carbon tetrachloride are the most common cleaning agents for intensifying screens. If there is any doubt as to the proper methods of cleaning the screens, the manufacturer should be consulted.

The above mentioned precautions are to prevent the building up of a static charge. Once the film possesses a charge, it is still possible to reduce static marks by the dissipation of that charge. This is done by providing a path of least resistance by grounding the loading bench. The cassette should be in contact with the grounding strip placed along the edge of the bench when loading and unloading. Also, to minimize static, darkroom personnel should avoid the use of insulators such as rubber soled shoes, rubber gloves, finger cots, et cetera.

Fog is the "development of silver particles in the emulsion other than those affected by x-ray during exposure."[3] There are five kinds of fog: safelight, radiation, emulsion, chemical, and aerial.

The term "safelight" gives technicians a feeling of false security from fog. Even when the correct filter and light bulb are used in a safelight, there are two other factors that have to be determined before it can be safely used. These factors are the distance from the safelight to the films being processed and the length of time a film will be exposed to the safelight. All safelights should be checked at the time of installation and thereafter periodically. Because an exposed film is more subject to fog than an unexposed one, a radiograph of a chest is used in testing a safelight. After the film is removed from the cassette in total darkness, it is placed on the loading bench and covered with a 14 x 17 inch cardboard cut into seven pieces (Figure 5). At this point, the safelight is turned on. The cardboard section A (lower left) is removed immediately and each succeeding section moved at two-minute intervals up to section G, which is never taken off the film with the safelight on. This will leave an area of the film which is processed in total darkness. By cutting the cardboard mask in this fashion, it is easy to compare all areas with the different lengths of time of safelight exposure. The results are particularly accentuated when section A is compared with section G. When F and G are compared, it is readily apparent that this safelight and distance cannot be used without some fogging at two minutes.

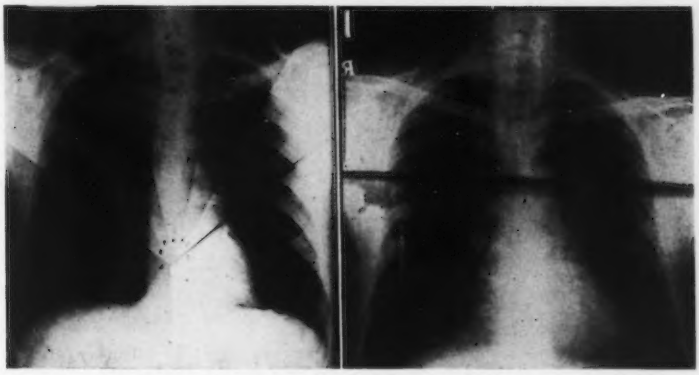

Fig. 5 (left) Radiograph used in testing fogging time of safelights. Sections exposed to safelight: (A) 12 minutes; (B) 10 minutes; (C) 8 minutes; (D) 6 minutes; (E) 4 minutes; (F) 2 minutes; (G) no exposure.

Fig. 6. (right) Radiation fog caused by a leak in the lead lining in the pass box door.

It is very difficult to differentiate between radiation and light fog on a radiograph. There are several methods of determining whether the source of fogging is from radiation. The chest radiograph in Figure 6 shows an area of radiation fog which was found to be due to a leak in the lead lining of a pass box. If it is suspected that there is a leak in the storage bins or darkroom walls, a simple test can be made by taping some pennies or paper clips on the tube side of a cassette and placing it near the area in doubt with the exposure side facing the possible source of radiation. One manufacturer of x-ray film has a thin metallic strip circumventing each box of film, and if a shadow of this strip is seen on the radiograph then the film has been exposed to some source of radiation prior

to removing from the box. The cutting of this strip on a fogged film is seen in Figure 7a. If there is fog present on a film and the area covered by lead markers shows no indication of exposure, then it is evident the film has radiation fog. Also, to differentiate between light and radiation fog, the radiograph should be viewed on reflected light to detect whether the fog is on both sides of the emulsion or just one. If on one side only, it is light fog. The light fog shown in Figure 7b should not be confused with radiation fog. Any supposedly light-proof equipment for the darkroom should be tested prior to use. These marks are the result of an exposed film being placed in front of a "light-proof" ventilator for a few seconds.

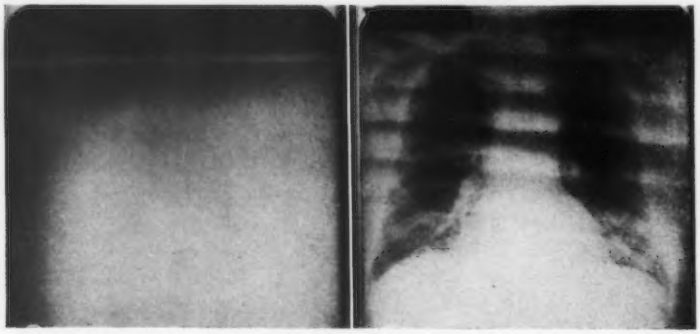

Fig. 7. (left) One of the films from a box that has been fogged by radiation. (Right) Chest radiograph placed in front of "lightproof" ventilator prior to development.

The third type of fog, emulsion, is inherent in all sensitized photographic and radiographic products. This inherent fog is intensified through aging of the emulsion and exposure to moisture and heat. To keep emulsion fog at a minimum, it is wise never to overstock a supply of film and to use proper storing conditions. Also, it is very important to use a good brand of film.

"No chemical known will leave an unexposed area indefinitely unchanged. All will begin to develop unexposed parts after a period of time, producing a condition called chemical fog."[4] All developer solutions have a definite fogging time beyond which bromide will be freed in unexposed areas. Besides the length of developing time, there are other factors which will produce chemical fog. There could be too much alkali in the developer solution. Also chemical fog becomes more apparent with the higher temperatures during development. The use of exhausted developer or incorrect use of replenisher will produce this type of fog.

Aerial fog is the result of constant inspection of the film during development. This could be eliminated by the careful use of corect technical factors in the radiographic room.

Everyone is familiar with the results of films adhering together in the developer solution or to the side of the tank and leaving a small area unreduced. However, the importance of this type of carelessness cannot be overemphasized. Figure 8a shows an area of questionable pathology over the left lower lobe of the lung. Figure 8b is the second radiograph of the same patient, proving the marking is due to an artefact and not pathologic change.

One of the other problems associated with the developing of films is the collection of foreign material on the surface of the solution. Quite frequently dust particles settle on the developer and, if it is not stirred prior to using, these particles will adhere to the emulsion as the film is lowered into the tank. These spots of dust prevent development in confined areas. Dust markings can be avoided by keeping the tank covered, skimming the solution when dust is apparent, and by stirring the solutions frequently. The second form of foreign material on the developer is an oily scum which produces multicolored streaks, best seen on reflected light. The contour of these markings is similar to that produced by the dust particles and indicates that the material is floating on the surface of the developer and adheres to the film at the time it is immersed in the solution. This oily scum is the result of oxidation of a deposit on the tanks. The deposit is

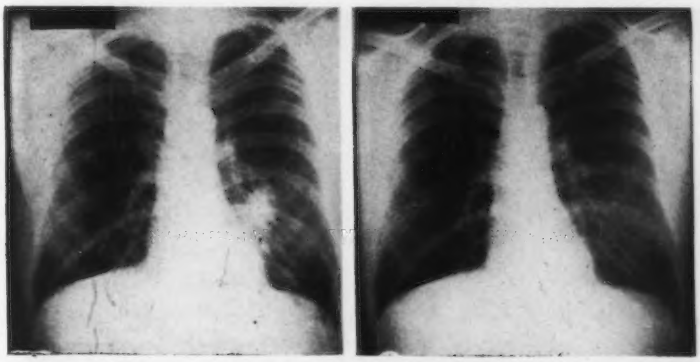

Fig. 8 (Left) Chest radiograph of questionable pathology. Left side. (Right) Recheck film of same patient proves marking due not to a pathologic change, but to the fact that the film adhered to the side of the tank.

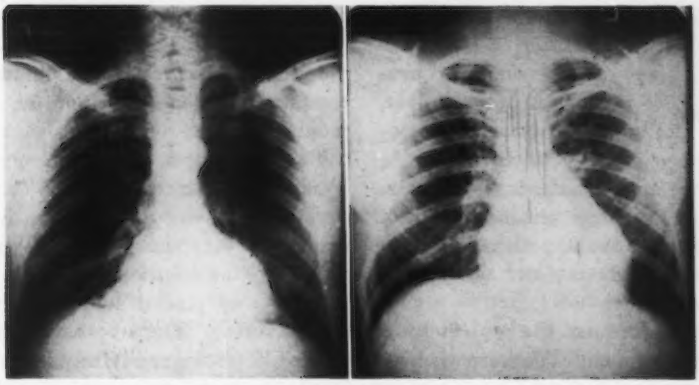

Fig. 9 (left) Chest radiograph showing an over-developed area on patient's left side which is due to the addition of hot replenisher to the developer solution while the film was being processed.

Fig. 10. (right) Streaking effect in the center of chest radiograph due to viswing in white light before completely clear.

formed on the sides of the tank after considerable use. The only method of preventing its production is to keep the tanks meticulously clean. With stainless steel tanks, this is done by cleaning them with a brush and then polishing the surface with a mild abrasive. This care will prevent any deposit from starting to collect. However, if the tanks have not been properly cleaned at frequent intervals and a deposit has been allowed to accumulate, it is best removed by scraping with a putty knife and then polishing. Care should be exercised to avoid scratching the stainless steel.

Most departments use the replenishing method of development. To keep the developing time at a minimum, replenisher is added when the fluid level is lowered by the solution being carried out of the tank with the films, if they are not allowed to drain back. While this is the most satisfactory method, there are one or two precautions to be used. Figure 9 shows the result of several contributing factors. The replenisher was added while the film was developing. In this case the replenisher solution had just been prepared and was still at a very high temperature, thus resulting in over-development of the area on the film where the new solution ran down one side. The developer solution should be stirred after replenisher is added and also frequently during the day. If the solution is not used for some time, the chemicals may level off in layers and produce uneven development on the radiograph.

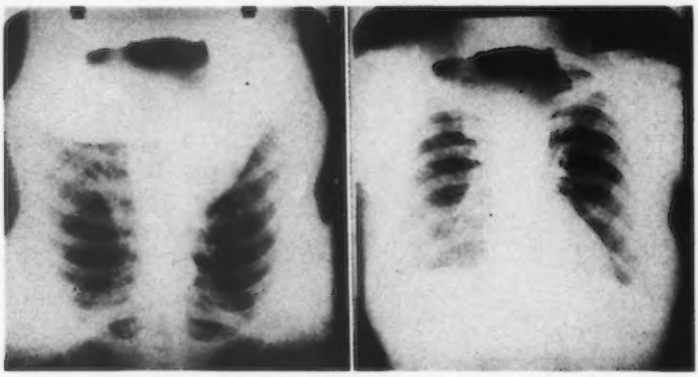

Fig. 11. Films that have adhered together in the fixer preventing action of hypo in localized area.

The use of a stop bath is usually optional with the technician. Our experience has shown that a stop bath is a necessary step in the processing procedure. This solution is made by adding 20 ounces of glacial acetic acid to 5 gallons of water. The stop bath is commonly used in photography to prevent further development of the negative.

Although radiographic processing is not so critical, the stop bath is necessary to prolong the life of the fixer and also to prevent any possibility of fog after the film reaches the hypo and before it is clear. Every department is plagued by outside doctors viewing a film the minute it reaches the fixer. A stop bath is the answer to this problem. The chest radiograph in Figure 10 is typical of the streaked fogging produced by exposure to

a white light prior to complete stopping of the reducing process. In order to make the stop bath last longer, the films are rinsed after removing from the developer. It is necessary to immerse the films for a few seconds only in the acid bath before placing them in the fixer solution. Since considerable faith is placed in the stop bath, it must be tested periodically to be sure it is serving its purpose. This can be done either by using litmus paper or one of the commercially prepared testing kits.

Films that have stuck together in the hypo are not so likely to show shadows that may be confused with pathologic lesions as those in the developer, but can produce some unusual results. Figure 11 shows two chest radiographs which were fixed in a careless manner and a stop bath was not used. At the time these were placed in the hypo, they were sticking together with the one on the right projecting above the fluid level. This is evident from the area across the top of the film that is fogged and not cleared. Also on these films, the dark irregular outlines signify areas of continued development and fogging. In these areas, the films adhered, thus preventing the fixer solution from stopping the development action. The printed image of the rib on the film to the left proves the film was fogged while the two were stuck together.

Dichroic stains are those which present one color on reflected light and another in transmitted light. When viewed with transmitted light, the markings appear pink, and have a bluish metallic appearance by reflected light. The causes of dichroic stains are: the use of developer contaminated with fixer, insufficient rinsing between developer and fixer solutions, the use of exhausted fixer, or a combination of the three. The most common cause is the use of exhausted fixer.

As with the use of the stop bath, the use of a wetting agent is optional. But, unfortunately, many departments do not

Fig. 12. Wrinkled effect of emulsion due to slow and uneven drying.

use or know about the use of such a solution. When the films are dipped in a wetting agent following washing, the water runs off faster, thus preventing uneven drying (Fig. 12). In addition to this, the drying time of the films that have been passed through a wetting solution has been reduced by as much as one-third of the normal time. In our department, it has saved us the expense of an additional drier and has eliminated the artefacts produced by slow drying. Also the wetting agent is indispensable for separating films that have stuck together while drying. When this has happened, the radiographs should be allowed to soak in the wetting agent until they come apart freely. This may take a matter of hours, but it is worth the time since prior

to the use of a wetting agent, the emulsion was usually removed in attempting to separate the stuck films. Any department, no matter how large or small, would benefit by the use of a wetting agent.

One of the most disastrous things to happen to intensifying screens is to get developer stains on them. Once the stains are present, there is no known way to remove them. But, if it is known that developer has been dropped on a screen it can be washed immediately to prevent a permanent mark. Figure 13 shows a developer stain on an intensifying screen and its appearance on the radiograph. In x-ray departments where there is a separate loading room, there is little danger of damaging the screens by chemical stains. In darkrooms that have a loading bench in the "wet" room, extreme caution must

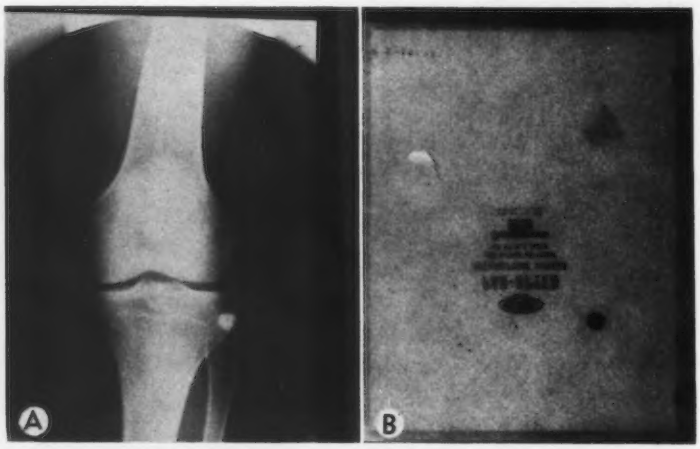


Fig. 13. (A) Radiograph of a knee showing artefact over proximal tip of fibula. (B) Photograph by transmited light of developer stains on an intensifying screen.

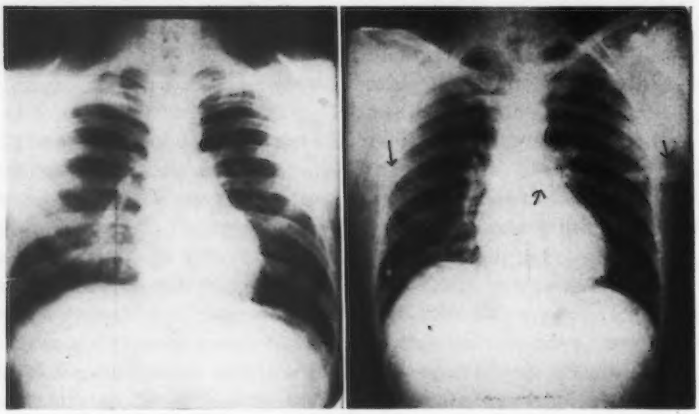

Fig. 14. (Left) Radiograph of a chest with poor detail on the patient's right side because of unfastened clamps on the cassette.
Fig. 15. (Right) Manufacturing defect.

be taken in order to prevent splashing or carrying developer with the hands on to the screens. Once the stains are present, there is nothing to do but to replace the screens. However, all such marks can be avoided if a little precaution is used in the darkroom. The most important factors in preventing stains are: to unload the cassettes as far away from the solution tanks as possible and to make sure the hands are free of any chemicals and thoroughly dry before unloading or reloading cassettes.

Lack of detail on a radiograph is not always due to motion. Figure 14 shows a chest radiograph which has the appearance of the patient breathing with one lung. This phenomenon is caused by the clamps on one side of the cassette cover being left unfastened or being weak.

Another frequent cause of poor detail that is often overlooked is the lack of good contact in the cassettes. All technicians should take into consideration the possibility of poor contact if there is a lack of detail on the radiographs, particularly on the 14 x 17 inch size. In testing a cassette for good contact, we have found the use of new paper clips spread out on the tube side to be more accurate than using a wire mesh. Poor detail in the centre of the radiograph (Fig. 16, left) indicates a lack of good contact in that area. With good contact, however, the defect disappears (Fig. 16, right). The first step in correcting this poor contact is to draw a white line around the area showing poor detail. Then a piece of typing paper is cut out in this shape. Several additional pieces of paper are cut in the same shape, but each succeedingly smaller. These are then pasted together with small amounts of paste, starting with the largest on the bottom. After the paste has dried, this mat is slipped between the back screen and the cassette lid to conform with the outline drawn on the film showing poor contact. Following this, the cassette should again be checked by using the paper clips. If poor contact perists, additional pieces of paper may be added or subtracted.

Fig. 16. (Left) Poor detail in center of radiograph. (Right) Radiograph showing that poor contact has been remedied.

Occasionally, an artefact is found on a radiograph which is due to a manufactur-

ing defect and not faulty darkroom procedure. This is the exception rather than the rule, since the production of modern x-ray film is a well-perfected science. The defect running across the film in Figure 15 is caused by moisture on the rollers at the time the emulsion was put on the film base.

The darkroom is usually considered the place for the inexperienced technician. Contrary to this idea, however, it should be thought of as the most important room in any x-ray department and should be operated by the more experienced technicians. Poor quality films due to improper darkroom procedure are the result of either lack of information or carelessness. With all of the information available on processing procedures, there is little excuse for a technician not knowing and understanding thoroughly the various aspects of the darkroom. Therefore, it is only logical to conclude that practically all artefacts produced in the processing room are due to carelessness.

BIBLIOGRAPHY

1. Ansco: X-Ray Technicians Handbook.
2. Buck X-ograph Co.: The X-Ray Darkroom. 7: No. 1 (May) 1941.
3. Buck X-ograph Co.: The X-Ray Darkroom. 8: No. 1 (Jan.) 1942.
4. Buck X-ograph Co.: The X-Ray Darkroom. 8: No. 3 (May) 1942.
5. Dupont: Darkroom Technique for Better Radiographs.
6. Files, Glenn W.: Medical Radiographic Technic. Springfield, Ill.: Charles C. Thomas, 1947.
7. General Electric Technical Services, X-Ray Department: A Look at X-Ray Film Processing.
8. Rhinehart, D. A.: Roentenographic Technique. Philadelphia: Lea & Febiger, 1943.
9. Sante, L. R.: Manual of Roentgenographic Technique. Ann Arbor: Edwards Brothers, 1944.

# Protection—Beware the Photofluorogram

RADIOGRAPHERS, along with the other hospital personnel, usually are subject to periodical routine chest radiographs. The radiographer should bear in mind that the radiation exposure he receives during this procedure is in addition to any secondary radiation he may receive in the performance of his duties.

A cursory study reveals that a person with a chest measurement of twenty-five centimeters receives an exposure of 30 milliroentgens during a direct, 14″ x 17″ radiograph of the chest. For a 70mm. photofluorogram, the exposure jumps to 600 milliroentgens; twice the recommended maximum weekly dosage. Measurements made of a unit producing 4″ x 5″ photofluorograms show that the same individual receives an exposure of 6000 milliroentgens, the equivalent of his maximum permissible dosage for twenty weeks. The radiation received from the latter unit is exceptionally high because the lens used has a maximum aperture somewhat smaller than is usually employed.

The above figures are not offered as absolutely accurate figures; they would probably vary with each unit concerned. Variations would occur because of differences in exposure factors used, lens aperture, speed of photofluorographic screen, distance, thickness of patient and other factors. But the figures presented are sufficiently accurate to make it obvious that radiographers should not receive routine chest radiographs through the medium of photofluorograms. Nor, of course, should they ever assume the position of subjects during the testing of such units. This would be even more foolhardy than subjecting onself to radiation in direct radiographic procedures; a practice which most radiographers avoid scrupulously.

While the number of institutions using photofluorograms for routine chest examinations of their employees is unknown, it is felt that they are sufficient in number to warrant this admonition to those who might be overlooking the very great amount of radiation received through such practices.

Reprinted from THE RADIOGRAPHER (Australia)

## Mrs. W. K. Colbeck (née Sadie Storm)

*To members of the Ontario Society of Radiographers and Canadian Society of Radiological Technicians, the name of Sadie Storm has meant much, as it immediately recalled one who with complete selflessness gave of her time and strength to assist in organizing both these societies. Sadie was a charter member of the Ontario Society of Radiological Technicians. The organizational meetings of this society were held in Toronto, the majority of officers were situated there, but to Sadie executive meetings meant the long drive from Welland to Toronto and a late return, frequently alone. With faith in her purpose this daunted her not a whit. Her enthusiasm was caught by Dr. W. K. Colbeck who lent the Ontario Society of Radiological Technicians most valuable assistance by way of advice regarding its organization; also in presenting its problems to the Section of Radiology of the Ontario Medical Association. Sadie was later destined to marry Dr. Colbeck, and following their marriage retired from active technical work, however, in her retirement did not forget her former associates and frequently the members of the executive committee were invited to her home. During recent years, through ill health, neither Dr. nor Mrs. Colbeck found it possible to take an active part in the life of the society. Dr. Colbeck's death preceded that of his wife in 1951 and proved a great shock to all, as it seemed he was just in his prime. On April 5, 1954, Sadie followed him, leaving the memory of her good deeds and faithfulness as an example to those who associated with her technical and organizational work. —M.F.C.*

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## Edward S. Hoare, R.T.

1881 - 1954

*On March 11th one of our life members, Mr. Edward S. Hoare, passed away following a brief illness at the age of 73.*

*Born in England in 1881, his younger years were spent as an electrician in the Middlesex Hospital, London. His first experience with x-ray was in 1896, only one year after Roentgen made his discovery. For twelve years he worked as a technical assistant to Sir Malcolm Morris doing superficial x-ray therapy and it was during this early work that he was presented with a pair of cuff links by King Edward VII for the successful treatment of a facial skin blemish given to the Monarch.*

*From 1906-13 he combined his services as technical assistant at the University College Hospital and the Elvine Hospital for Sick Children, London, England.*

*Mr. Hoare came to Calgary in 1913 where he worked as a radiographer in the General Hospital until 1918 when he left to work as Chief Technician at the Calgary Military Hospital. From 1923-38 he was Chief Technician to the late Dr. W. H. McGuffin and in charge of the X-Ray Department, Holy Cross Hospital from 1938 until his retirement in 1947.*

*A charter member of the A.S.X.T., Mr. Hoare was presented with a Life Membership in the C.S.R.T. in 1943, in recognition of his outstanding service of the field of Radiography.*

*Serving as a life vestryman of the Cathedral Church of the Redeemer, representative to the Foreign Bible Society and many other interests such as gardening, photography and reading, rounded out his long, useful and happy life.*

*He is survived by a son Robert residing in Ottawa.*

# International Congress, Laboratory and X-Ray Technicians

## ZURICH, JUNE 18 - 22, 1954

It is very late to extend to your association a cordial invitation to participate at our first international congress organized by the two otherwise separate associations of medical technologists and x-ray technicians. It was only now that I could find out an address of your association.

If we succeed in putting a first stone to an international institution we will let you know and we hope that many questions concerning our professions could be solved better in co-operation with other countries.

Miss Elizabeth Pletscher, Secretary.
Universitats-Frauenkinik,
Zurich 6, Schweiz.

Friday, June 18th—
4.00 p.m.—Meet at Station.
7.30 p.m.—Supper at Sonnenberg Restaurant, 98 Aurora St., if weather good, in the garden.
Greetings. Film.

Saturday, June 19th—
9.00 a.m.—Papers presented in lecture hall Kanton Hospital, Zurich. Principles of hospital technique—Prof. Dr. W. Loffler. (In German.)
9.45 a.m.—Cardiac catheterization—Prof. Dr. Prossier (In French).
10.30 a.m.—Beatatron in isotherapy—Prof. Dr. H. Schinz.
11.15 a.m.—The utilization of artificial radioactive isotopes for cancer therapy Prof. Dr. J. H. Muller (in English).
12.00 noon—The importance of cystology in gynecology. Prof. Dr. E. Held (in French.)
1.15 p.m.—Lunch at the Kanton Hospital.
2.30 p.m.—Trip to Hospital and City.
8.00 p.m.—Supper in the foyer of the Congress House. Speeches.

Sunday, June 20th—
8.00 a.m.—Meeting of lab technicians.
9.00 a.m.—(a) The principles of blood clotting in anti-coagulation therapy. Dr. F. Koller (in German).
(b) High kilovoltage technique and magnification technique. Dr. H. Gajewski (in German).
9.45 p.m.—Demonstrations (a) For lab. technicians—Dr. Rosemund and Dr. Wunderly.
(b) X-ray demonstration.
11.30 a.m.—Tour of the lab technicians' school at Juventus, with lunch.
Meeting of Swiss x-ray technicians.

Monday, June 21st—
8.26 a.m.—Trip to Basel starting from Sbb-Kollektiv.
Visit to F. Hoffman La Roche.
Papers and demonstrations.
Tour of factory.
Back to Zurich from Basel at 5.41 p.m.

Tuesday, June 22nd—
8.15 a.m.—(a) Paper for lab technicians.
(b) Modern radiology by Dr. J. Wellauer (in German).
9.00 a.m.—(a) Cancer serum—M. H. Pelenan (in French).
(b) Protection against secondary radiation—Dr. G. Joyet (French).
9.45 a.m.—(a) Chemotherapy of cancer and allied diseases—Dr. W. Bollag (in English).
(b) Practical experiences in high kv. therapy. M. Van Dijyk (Ger.).
10.30 a.m.—(a) Lab paper. Dr. Rivkine (Fr.).
(b) Practical experience in Hi Kv. Therapy. Prof. Dr. U. Cocchi (Ger.).
11.15 a.m.—Experiences in general bacteriology. Prof. Dr. A. Grumbach (Ger.).
12.00 noon—Inflammation of the eye. Prof. Dr. M. Amsler.
1.15 p.m.—Lunch in Student House.
2.30 p.m.—Modern anaesthesia. Dr. K. Z. Zimmerman (Eng.).
3.15 p.m. Lab. paper by Dr. Storck (Ger.).
4.00 p.m.—Emergency blood transfusion Andrew Frazer, Glasgow (Eng.).
4.30 p.m.—Gland and Spleen. Dr. S. Moeschlin (Ger.).
5.15 p.m.—Conclusion.

Wednesday—
(a) Papers for Lab. Techs.
(b) Papers for X-Ray Techs.

# The Focal Spot

*Journal of the Canadian Society of Radiological Technicians*

*"All our ambitions should be devoted to a faithful fulfilment of duties towards others as well as to ourselves."—Roentgen.*

LESLIE J. CARTWRIGHT, R.T.
EDITOR

*Volume 11* TORONTO 1954 NO. 2 *Issue No. 42*

# Editorial Notes

## THE PIONEERS PASS ON

The passage of time is never more clearly marked than by the passing of the pioneers. This issue of *The Focal Spot* records the demise of three pioneers in radiography and in the formation of our society. Mr. Edward Hoare of Calgary, who died on March 11th, was a Charter Member of the A.S.X.T. twenty-five years ago and was one of the first of the Life Members of the C.S.R.T. In retirement owing to advancing years he was not so well known outside of Calgary, although until his death he continued to attend many of the western meetings.

Mrs. Colbeck was one of the founders of the Ontario Society eighteen years ago and older members remember well how hard she, as Sadie Storm, worked in many capacities both for the Ontario Society and towards the formation of the C.S.R.T. Upon her marriage she imparted her enthusiasm to Dr. Colbeck and he attended many C.S.R.T. conventions and gave great help to the Directors in some of their early decisions. In recent years her health precluded active work for the society but she was still seen at some of the meetings.

Mr. Sidney Johnston of Moose Jaw was another pioneer who made radiography his life work. Many radiographers owe their success to his careful teaching as students. He was President of the Saskatchewan Society at the time of the organization of the C.S.R.T. and threw himself wholeheartedly into the project of a Dominion society. Always a prolific writer many of his articles appeared in *The Focal Spot*, the last one less thana year ago. We recall that he sent articles to *The Ontario Radiographer* before *The Focal Spot* or the Canadian Society existed.

Bert Welch, Percy Ghent, George Reason and now these three—so the pioneers leave us and the newer generation carries on where they left off.

## 1955 C.S.R.T. CONVENTION

The 1955 Convention of the C.S.R.T. will be held at the Windsor Hotel, Montreal, from September 7th to 10th.

## DR. E. A. PETRIE HONORED WITH FELLOWSHIP IN IN AMERICAN COLLEGE OF RADIOLOGY

C.S.R.T. members will unite in congratulating Dr. Petrie upon his election to a Fellowship in the American College of Radiology. Dr. Petrie has been so closely associated with our own Society that we feel a certain amount of reflected glory in this honor. Election to fellowship in the 3,500-member College of Radiology is a testimony of achievement and distinction.

## REGISTRY OF MEDICAL AUXILIARIES IN BRITAIN

Back in 1936 the *Registry of Medical Auxiliaries* was founded in England. The Society of Radiographers was one of the Charter Members and appoints three members to the Council of the Board of Registration. The Registry is something similar to the American Registry of X-Ray

Technicians except that it includes *all* medical auxiliaries. There are six sections—Radiographers; Chiropodists, Dispensing Opticians, Speech Therapists and Operating Theatre Technicians. We do not know why Laboratory Technicians and E.E.G. Technicians are not included. The Board is now circularizing all the Member Societies with the object of making their Registry as complete as possible. There is a Life Membership fee of two guineas (about $6.00). The objects of the Registry are stated as follows:

(1) To record the names of Medical Auxiliaries who are holders of approved Qualifications in Medical Auxiliary Work and also the particular qualifications of such Auxiliaries.
(2) To afford a mutually beneficial means of maintaining contact between Registered Medical Practitioners and duly qualified Medical Auxiliaries.
(3) To encourage the employment of duly qualified assistants and to prevent the exploitation of medical auxiliary work by untrained persons.
(4) To provide information concerning qualified Medical Auxiliaries not only for the use of the medical profession, but also of Institutions, Spas, Town and County Councils, and other official bodies for general reference.

Registers of members of the various groups are kept and published annually for the use of employing authorities. They are sent, without charge, to bodies such as Hospital Management Committees, Medical Officers of Health, Public Libraries, etc.

All registered persons receive a Certificate of Registration. In addition the Board supplies at a small charge a metal car badge appropriately designed.

Registration is, of course, the primary task of the Board, and to further that registration the Board undertakes publicity campaigns in various forms and does all it can to bring the names of those who are registered to the notice of all concerned. For example, the Board, last year, sent an explanatory leaflet to over 33,000 doctors up and down the country; it hires a stand at each Exhibition held by the British Medical Association in connection with its Annual Meeting; advertisements are inserted in appropriate journals and publications. There is little doubt that the names of those registered reaches all those authorities who are responsible for the employment of medical auxiliaries.

The Minister of Health has recently introdued Regulations stipulating that in order to qualify for employment in the National Health Service, a Radiographer must have passed the qualifying examination of the Society of Radiographers.

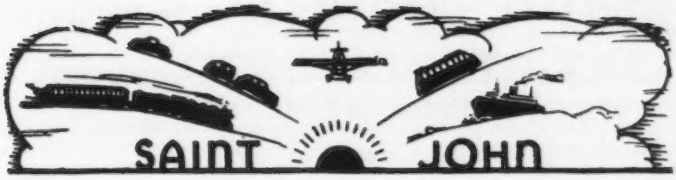
## BRITISH SOCIETY OF RADIOGRAPHERS TO HOLD ANNUAL CONFERENCE IN DUBLIN

The Eighth Annual Conference of The Society of Radiographers will be held at University College, Dublin, from June 9th to 11th. Papers will include "Radiography of Brain Tumours"; "The Image Intensifier Tube in G.I. Iine radiography and Other Applications"; "Recent Improvements in Contrast Media in the Use of Radioactive Isotopes as Tracers"; "Relationship of the Radiographer and the Medical Photographer in the Teaching Hospital."

The social side will include a Cocktail Party by invitation of Kodak Ltd., a visit to Guinness's Brewery (which sounds interesting!), a Motor Coach Tour to see something of Ireland and a Dinner and Dance at The Gresham Hotel.

We congratulate Leonard Ludwig, until recently of Victoria, B.C., on the fact that his paper on "The Odontoid Process," published in *The Focal Spot* (Issue No. 36), has been reprinted in both the Australian and English journals.

This is an age of specialists; In the March issue of *The X-Ray Technician* a *Focal Spot* article, "Radiography of the Chest, Sternum and Ribs" by Jane Martin was reprinted with the footnote—"Presented at the 9th Annual Convention Chest, Sternum and Ribs Technicians, Calgary, 1952." Well—C.S.R.T. does stand for Chest Sternum and Ribs, doesn't it?




## Welcome, Reader:

*For such a greeting seems a most appropriate one since we are about to have the Honour of your Presence in our Town. Great is the excitement and the turmoil hereabouts in preparation for the Great Event.*

*We most humbly suggest that your journey be so planned as to arrive in good time for the Mug-up. Here you will see the many friends who most anxiously await you and partake of much Jollity and Good Fellowship. Truly we wish to whet your Curiosity with all that shall come to pass at that Time but, alas, our pen has been pledged to Silence that your astonishment may be greater. Mayhap we may be forgiven if we only suggest that Strolling Musicians might perchance be evidenced and further that your throats, so dusty from the roads, be assuaged. No more shall be divulged, but do you come and be most welcome here.*

*Be not led astray so far as to imagine that only one surprise shall greet your eyes and ears. Much more is there for your enjoyment planned and for your pleasure contemplated. In your Honour shall a great feast be held with all manner of delicacies and victuals there provided, that you may know our Native Succulents. Gay bunting and most pleasing decorations shall you see adorning the hall, while gentlemen and ladies of high regard and fame will be there present to extend you greetings.*

*All is now being prepared and we do most impatiently await your coming. Tarry not along the way but come Post Haste to join the pleasant and interesting company here to be assembled.*

**Ye Ancient Order of Technicians of Saint John**

# Saint John, New Brunswick

## Salt Water Location of C. S. R. T. Convention
## September 1st to 4th, 1954

Margaret Fitzgerald, R.T.

SAINT JOHN, Canada's all year seaport on the Bay of Fundy coast, is the Gateway to the Maritimes. The New Brunswick division is eager and proud to welcome technicians and associates from all across Canada to the Loyalist city for the Twelfth Annual General Convention of the C.S.R.T.

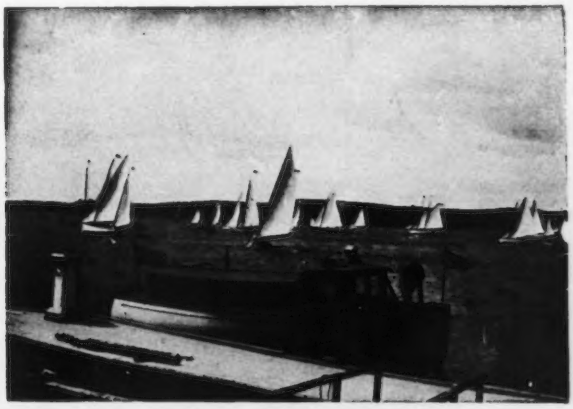
AERIAL VIEW OF SAINT JOHN SHOWING ADMIRAL BEATTY HOTEL AT KING SQ. PARK
C.P.R. BAY OF FUNDY SERVICE IN FOREGROUND

The first white man to land on New Brunswick soil was Samuel de Champlain, who sailed into the harbour of Saint John on June 24th, 1604, and discovered the St. John River and in honor of the day, the feastday of St. John the Baptist, he named the river, St. John. This year will be the 350th anniversary and extensive celebrations are to take place.

The modern city of Saint John is of Loyalist origin however. At the close of the war of Independence in 1783 many United Empire Loyalists emigrated to the continuing British Colonies. The first shipload reached Saint John harbor on May 18th, 1783, landing at Market Slip. Within the next year and a half, some six thousand people came to the mouth of the river and the valley beyond. This wave of colonization made New Brunswick a province in 1784 and Saint John a City in 1785, the first incorporated city in British America.

## SAINT JOHN

Saint John is located at the mouth of the Saint John River and is approximately 80 miles from the international border and about 400 miles from Boston. It stands upon a high peninsula, the harbour and river being in the centre of the city and Courtenay Bay on the east side. Our Loyalist city is often termed the city of the seven hills, hills that contend forever with the encircling arms of the sea. In the distance the city reveals itself in the hard outlines of red brick and unyielding granite, of gracefully tapering spires and soft green roofs of weathering copper. Yes, Saint John, has the face and character of a seafarer—hard-bitten, rugged, yet warm and friendly.



Yachting on the Saint John River.
Dr. Petrie's yacht may be seen second from right, slightly to left of pennant of motor launch.

Its very portal is a turmoil of water and rock where river and ocean meet. A striking attraction of the natural order exists at the city of Saint John. Here on the shores of the Bay of Fundy, at the mouth of the Saint John River, the highest and lowest tides in all the world and the remarkable reversing falls rapids, give striking demonstration of power and versatility. The awesome tides of Fundy, rising and falling at times as much as 3 feet, are actually reflections of the huge Atlantic tide which sweeps daily twice around the world.

Also running, not precipitously, but nonetheless definitely, the falls flow in one direction as the powerful tides of the Bay flow inward, forcing the waters of the St. John River uphill. Then, as the tide retreats, the falls reverse their direction and flow the opposite way through the Saint John harbour and into the Bay of Fundy.

Saint John has the shortest main street in Canada. King Street runs three blocks uphill, from Market Slip to King Square Park. This Square is a very interesting spot, located in the centre of

View from the famous Reversing Falls.

the City. Its walks are laid in the crosses of the Union Jack. There are beautiful trees and flower-beds, also a fountain and a bandstand and several monuments. The Court House, situated on one side of the Square, dates back to 1830 and is a striking example of old colonial architecture. The interior is well worth a visit; one of its most interesting features being a quaint spiral stairway and on an adjacent side of the square is the Admiral Beatty Hotel where our Convention is being held. Adjacent to King Square is the Loyalist burying ground, where on weather-beaten granite-marked stones, one may read epitaphs of the city's founders.

Public Gardens at Rockwood Park.

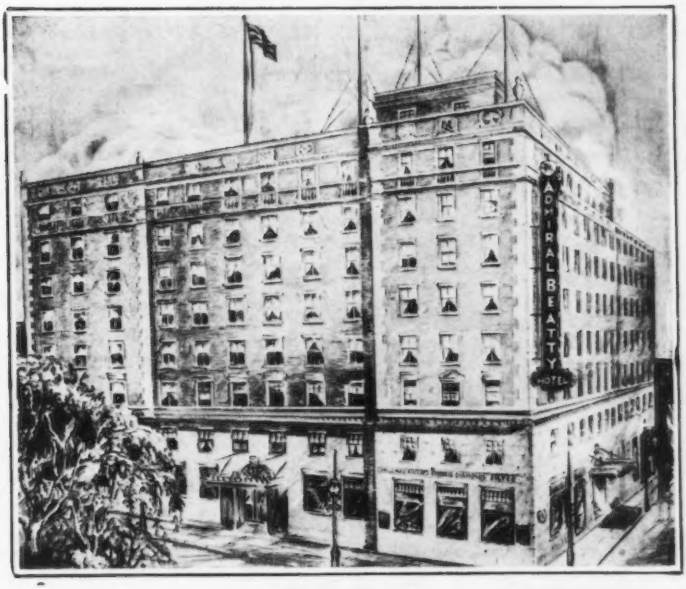
Saint John is fortunate in possessing several beautiful open spaces laid apart for use of the public in different localties of the city. Rockwood Park, most extensive of the Saint John open spaces, is one of the most beautiful natural parks in Canada. Its wooded and hilly surface very like the Highlands of Scotland cover some 800 acres and nestling among the hills is a natural lake of extreme beauty, Lily Lake, where boating, bathing and fishing are permitted. In winter the lake is the site for skating, skiing, tobogganning and attracts thousands of spectators yearly. The park contains twelve miles of road and contains a chain of five artificial lakes linked together by means of pretty paths. Saint John also has two excellent golf courses for golf enthusiasts.

General Hospital, Saint John.

I hope this account will provide the visitor with a glance of our city and Southern New Brunswick, but no words can make up for actual seeing. So plan now, technicians, to see your fellow R.T.'s from all across Canada at the Twelfth Annual C.S.R.T. Convention at Saint John on the Fundy coast, September 1st to 4th.

Cuts by courtesy G. P. Casey, Merchants' Advertising and Tourist Service, Saint John, N.B.

# *Make It a New Brunswick Vacation This Year*




Admiral Beatty Hotel, Saint John.

The following are the room rates for the C.S.R.T. Convention to be held at the Admiral Beatty Hotel, Saint John, from September 1st to 4th, 1954:

Single room—running water and lavatory—$4.50, $5.00.
Double room—running water and lavatory (Double Bed)—$7.00.
Single room—with Bath—$7.00, $8.00.
Double room—with bath (Double Bed)—$8.00, $9.00, $10.00.
Double room—with bath—(Twin Bed)—$10.00, $11.00, $12.00, $13.00, $14.00.

Mail requests for reservations directly to the Hotel.

E. B. Sweeney, Managing Director,
Admiral Beatty Hotel,
Saint John, New Brunswick.

## LECTURERS AND EXHIBITORS—NOTIFY EXHIBIT CHAIRMAN

Attention is directed to those giving technical papers or film exhibits needing viewing boxes, projectors or movies (silent or sound), lantern slides or other props. Please state size of projector or lantern slides required to: W. R. Beatteay, R.T., Chairman of Exhibit Committee, Lancaster D.V.A. Hospital, Lancaster, N.B.

# Saint John—the 1954 Convention City

12th C.S.R.T. ANNUAL CONVENTION

ADMIRAL BEATTY HOTEL

SAINT JOHN, NEW BRUNSWICK, SEPTEMBER 1st, 2nd, 3rd, 4th

## CONVENTION CHAIRMEN

| | |
|---|---|
| General Chairman | —Darrell Liston, Lancaster D.V.A. Hospital, Lancaster. |
| Finance | —Clare Marie McGrath, St. Joseph's Hospital, Saint John. |
| Programme | —Kay Creelman, Moncton City Hospital, Moncton. |
| Refresher Courses | —Miss Thelma Amos, St. Joseph's Hospital, Saint John. |
| Entertainment | —Barbara McLean, Saint John General Hospital, Saint John. |
| Sister's Housing Committee | Sr. M. deLellis, —St. Joseph's Hospital, Saint John. |
| Exhibit | —William Beatteay, Lancaster D.V.A. Hospital, Lancaster. |
| Reception and Registration | Frances Peters, —Saint John General Hospital, Saint John. |
| Publicity | —Lois McNair, Lancaster D.V.A. Hospital, Lancaster. Margaret Fitzgerald, Lancaster D.V.A. Hospital, Lancaster. |

## REFRESHER COURSES

Three Refresher Courses will be conducted during the Convention on September 1st, 2nd, 3rd, from 8.30 a.m. until 10.00 a.m. The courses are:

| | |
|---|---|
| The Atomic Theory | Conducted by Mr. Lloyd Bates, Physicist, Department of Health and Social Services in New Brunswick. |
| Properties of Commercial Screens and Films | Conducted by Mr. Frank Driesinger, R.T., Manager, Technical Service Department, General Electric X-Ray, Milwaukee, Wisconsin. |
| Some Important Positions in Routine Radiography | Conducted by Sister M. deLellis, R.N., R.T., B.Sc., St. Joseph's Hospital, Saint John, N.B. |

# Outline of Refresher Courses

**"PROPERTIES OF COMMERCIAL FILMS AND SCREENS"**

**By Mr. Frank Dreisinger**

**8.30 - 10 a.m.**

1. **SCREENS**
   - Intensifying:
     - History of Development.
     - Essential characteristics.
     - Factors affecting speed and detail.
   - Fluoroscopic:
     - History of development.
     - Essential characteristics.
     - Factory affecting speed and detail.
   - Photo Roentgen:
     - Types and application.
   - Future developments.
2. **FILMS**
   - History of development.
   - Essential characteristics.
   - Factors affecting film quality.
   - Types and application.
3. **PHOTOGRAPHIC CHEMISTRY**
   - Developing solutions—age—oxidation and optimum time.
   - Fixers—type—life—optimum time.
   - Stop baths.
   - Fixer neutralizers.

**8.30 - 10 a.m.**

**ATOMIC THEORY:**
- Basic particles.
- Atomic nucleus.
- Orbital electrons.
- Energy distribution in an atom.
- Radiations from the atom.

**ELECTRICITY:**
- Electric charge.
- Charge, potential, voltage, E.M.F.
- Electric field and lines of force.
- Maintaining potential.
- Electrostatic meters.
- Ohm's law.

**MAGNETISM:**
- Moving charge theory of magnetism.
- Electromagnets.
- Permanent magnets.
- Meters.
- Comparison of magnetism and electricity.

**X-RAY PRODUCTION:**
- Production of electro-magnetic radiation.
- Interchanging electrical, mechanical radiant energies.
- Characteristic X-rays.
- Bremstrahlen.
- Gamma rays.

**X-RAY MACHINE COMPONENTS:**
- Sources of high potential.
- Sources of electrons.
- Rectifiers.
- Control of potential and electron sources.
- Measurement of potential and electron flow.

**X-RAY MACHINES:**
- Portable diagnostic.
- Stationary diagnostic.
- Superficial therapy.
- Deep therapy.
- Super voltage machines.

**"SOME IMPORTANT POSITIONS IN ROUTINE RADIOGRAPHY"**

**By Sister M. deLellis, R.N., R.T., B.Sc.**

**8.30 - 10 a.m.**

1. Introduction
   - Review of film qualities.
   - **Prime Factors and Technical Factors:**
     1. DENSITY
        - a. KvP.
        - b. MAS.
        - c. Distance.
        - d. Miscellaneous.
     2. CONTRAST
        - a. KvP.
        - b. Scattered radiation.
        - c. MAS.
        - d. Miscellaneous.
     3. DETAIL
        - a. Geometric unsharpness—causes and remedies.
        - b. Material unsharpness—causes and remedies.
        - c. Motion unsharpness—causes and remedies.
     4. DISTORTION
        - a. Magnification—causes and remedies.
        - b. Distortion—causes and remedies.
   - High Coltage Technique vs. Low Voltage Technique.
   - Latitude of Exposure.
   - Film Demonstration.
2. Surface Anatomy Landmarks:
   - Misconceptions regarding Reid's baseline (infraorbitomeatal line).
   - Importance of accurate projection of central ray.
   - Relationship of tube-angulation-shift to film-shift.
   - Petrous Apex.
   - Lateral wall of orbits.
   - Facial bones with special reference to modification of Titterington's projection.
   - Value of High MaSec, in radiography of Sternum, Lateral Thoracic Vertebrae.
   - Ribs above Diaphragm.
3. Valuable supplementary views to demonstrate particular conditions:
   - a. Lumbosacral area.
   - b. Knee (supracondyloid projection, etc.).
   - c. Ankle.
   - d. Carpal bones.
   - e. Elbow.
   - f. Acromioclavicular joint.
   - g. Scapula.

**N.B.—REGISTRATION IN THIS CLASS LIMITED TO 25.**

An attempt will be made to have a radiographic table, x-ray tube, and sufficient accessories to demonstrate positions under discussion.

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CROWLEY, PATRICIA
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CURRIE, EVA
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Moncton Tuberculosis Hospital, Moncton, N.B.
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Victoria Public Hospital, Fredericton, N.B.
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Oak Bay, N.B.
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MURPHY, THOMAS
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ROBERTS, BERYL
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SHUTE, ERNESTINE
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St. Clare's Mercy Hospital, St. John's.

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EDSTRUM, EMILY
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FERGUSON, SHIRLEY
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New Waterford General Hosp., New Waterford.

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MacRAE, MARGARET
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MORTON, BARBARA
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Camphill Hospital, Halifax.

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Toronto General Hospital, Toronto.
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EAMER, NORMA
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GILDERS, CAROL
General Hospital, Port Arthur.
GLEASON, MARY
Sudbury General Hospital, Sudbury.
GOLBY, HELEN
St. Mary's Memorial Hospital, St. Mary's.
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JONES, HARVEY
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ROMER-ROSDOLSKA, MARIA
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RUTLEDGE, GARFIELD
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SCOTT, MELVIN
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SEXSMITH, MISS ANSLEY, R.N.
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SHIFSKY, MAXINE
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STANDING, HELEN, R.N.
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STANISZEWSKI, LOUIS
Sunnybrook Hospital, Toronto.
STECHYSHYN, ANTHONY
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STEWART, LEONARD
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STIRRETT, EVA
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STOREY, VIOLET
Grace Hospital, Windsor.
STRAND, GUSTAVE
McKellar General Hospital, Fort William.
TERRYBERRY, MISS MIRREE
General Hospital, Niagara Falls.
THOMPSON, LESLIE
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## BOOK REVIEW

Roentgenographic Technique. Darmon A. Rhinehart, A.M., M.D., F.A.C.R., Fourth Edition 1954. Lea & Febiger, Philadelphia (in Canada, The Macmillan Co. of Canada). 454 pp.; 520 illustrations; 19 tables. $8.50. This is a thoroughly comprehensive work which will prove of great value to students and graduates alike. It is divided into twenty chapters, each dealing completely with the subject under consideration.

The bibliography with which each chapter concludes opens many supplementary avenues of study for those wishing to follow the subject still further. Chapters 1 to 4 comprising nearly 100 pages deal with Physics and Equipment, followed by a chapter on Darkroom work. Chapters 6 to 12 (100 pages) will be found very stimulating by advanced workers as well as instructive for students. In these chapters experiments may be conducted and various techniques developed by the worker. Many tables and graphs provide valuable data. The remaining nine chapters (130 pages) deal with positioning, with illustrations of the positions and the resulting radiographs.

In a brief review such as this it is impossible to do more than sketch the nature of the contents. In one volume this valuable work covers the field of medical radiography, including the allied subjects of electricity, physics and experimental techniques. With another book on Therapy and one on Anatomy and Physiology the student's library would be reasonably complete.—L.J.C.

## NEWS ITEMS FROM THE PROVINCES

*N.B.—from p. 56*

Routine discussions followed and some comments were heard re the Gevaert awards. The New Brunswick Society has set up an awards committee consisting of Thelma Amos, Barbara Gilliland and Joyce Flood. This energetic group has circularized all New Brunswick technicians explaining the awards set up and urging each technician to compete. We sincerely hope to have several entries for this competition.

One new student applicant was considered and accepted. This was Verna Wood, Prince Edward Island Hospital, Charlottetown, P.E.I.

The technicians present were taken on a tour of the X-Ray Department of the new Moncton Hospital which was officially opened only last August. All expressed interest in the convenient modern department and the pleasant working conditions.

The guest speaker for the evening was Dr. R. D. Landry. Dr. Landry is attached to the Department of Health in Moncton, and is well qualified to speak on the subject chosen for the evening's topic, which was "Tuberculosis—the Value of Early Diagnosis and Treatment." He stressed the importance of routine check-ups, the value of mass radiography, and the contribution that miniature films are making to the detection of early lesions. This talk was correlated by a film called "Target TB." Darrell Liston spoke for the members present when he thanked Dr. Landry for a most interesting and enlightening talk.

At the close of the meeting the guests assembled in the cafeteria of the Moncton General Hospital where delicious refreshments were served under the capable supervision of the Dietary Staff.

—K. CREELMAN, R.T.,
Secretary, N.B.S.X.T.

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*MAN.—from p. 54*

Super-Dynamax tubes are used and are capable of taking 125,000 heating units safely.

Miss Sloik, a student at Misericordia Hospital, also gave a paper explaining the use of two tennis balls under a compression band during Intravenous Pyelograms. This procedure effectively closes off the ureters allowing the kidneys and upper ureters to become well filled with the contrast medium. Twenty-five minutes after the dye has been injected, the patient is raised to an upright position, the pressure is removed and a film of the lower ureters and the bladder is obtained.

The annual Manitoba Convention is to be held in conjunction with the Associated Hospitals of Manitoba Convention during the latter part of September. It is hoped that recognition and prestige will be gained by such a move.

The twenty-fifth anniversary of the Manitoba Society will also be celebrated in the fall, although a definite date has not been determined at present.

—ED BAILEY, R.T.,
Sub-Editor.

*N.S.—from p. 58*

### CAPE BRETON SECTION

A meeting of Cape Breton Section of the Nova Scotia Division of the C.S.R.T. was held at the City of Sydney Hospital on March 29th, at 8.00 p.m. with about 12 members in attendance. Due to the inclemency of the weather, the attendance was not as large as expected.

The meeting was opened by the President, Sr. John of the Cross and the minutes of the last meeting were read and approved. The chief topic of this meeting was the preparation for the coming Nova Scotia Convention which will be held in Sydney, May 19th and 20th. The various committees appointed at the last meeting were heard from and final plans were made; with the promise that the programmes would be ready within the next few weeks. As no new business was brought up, the meeting adjourned followed by a delicious lunch served by the hospital staff.

See you all at the convention.

—SISTER M. ROBERTA, R.T.,
Sub-Editor.

## ONTARIO SOCIETY OF RADIOGRAPHERS

### Start Preparing For the Big O.S.R.-N.Y. State Society Convention Hotel Ten Eyck, Albany, N.Y., Oct. 14, 15 and 16

The following committees have been appointed:

ONTARIO SOCIETY OF RADIOGRAPHERS

Convention Chairman — Jack Guthrie, R.T., Lockwood Clinic, Toronto, Ont.

Programme and Publicity—Hart Griffin, R.T., Weston, Sanatorium, Toronto, Ont.

Entertainment and Transportation — Andrew Douglas, R.T., Wellesley Hospital, Toronto, Ont.

Secretary-Treasurer—Donna Dixon, R.T., Raxlen Clinic, Toronto, Ont.

X-RAY TECHNICIANS SOCIETY OF NEW YORK STATE, INC.

Convention Chairman—Lawrence Palmer, R.T., 17 Harrison Ave., Glens Falls, N.Y.

Co-Chairman—Dorothy Linton, R.T.

Publicity—Marie A. C. Grooten, R.T.

Refresher Courses — Edward White, R.T., Albany Hospital, Albany, N.Y.

Programme—Eva F. Gray, R.T., 148 Ring St., Renesselaer, N.Y.

Exhibits—Katherine Springstead, R.T., Memorial Hospital, Albany, N.Y.

Entertainment—Lucy Manvel, R.T., Mrs. E. Mills, Women's College Hospital, Toronto.

Sisters' Housing—Sister Christian, R.T.

Banquet—Louis Walthousen, R.T., Miss L. Kerr, Smooth Rock Falls Hospital.

Registration—Dorothy George, R.T.

Hospitality—Frank McCormick, R.T., Miss M. Hoven, Cornwall General Hospital.

PAPERS: These should be forwarded to Eva F. Gray, R.T., 148 Ring St., Renesselaer, N.Y., on or BEFORE July 15th. A special CASH AWARD will be given by Capitol District X-Ray Technicians Society for the best paper presented.

EXHIBITS: These should be sent to Katherine Springstead, R.T., Memorial Hospital, Albany, N.Y., BEFORE September 1st. As in previous years, the KRESS MEMORIAL CUP will be awarded for the best films exhibited by a member of the New York State Society. A CASH AWARD will be made for the best film exhibit of both societies.

REFRESHER COURSES: Two courses will be presented on Friday and Saturday mornings. A one dollar fee will be charged, except for students.

Instructors and Topics:

Leslie J. Cartwright, R.T., Chief Technician, Hospital for Sick Children, Toronto, Ont., "Radiography of Children."

Edward White, R.T., Chief Technician, Albany Hospital, Albany, N.Y., "Allied Principles of X-Ray Physics."

The committee has had another meeting with the New York Committee and all is going well with their plans. A new idea for the programme "Stump the Experts" has been added, consisting of a panel of "Experts," who will attempt to point out errors in films, concerning technique, dark-room or film itself, and x-ray apparatus. A cash award has been posted by the Ontario Committee for the most elusive defect or film which will "Stump the Experts." Send your artifacts to Hart Giffin, Weston Sanatorium, Programme Committee.

Don't forget that following the serious and instructive portion of the convention, as outlined above, we have planned a social entertainment programme for your relaxation and enjoyment. MORE LATER . . .

There are more papers needed; have you started yours yet? The prizes are increasing. Don't forget to assemble your exhibit and send it along to Hart. All department heads have been contacted, so now is the time to send your contribution, papers and exhibits, and ask your chief for time off while the "Iron is Hot." Remember the slogan "On to Albany in the Fall"—October 14th, 15th and 16th.

## NEWS ITEMS FROM THE PROVINCES

### CENTRAL SECTION

On February 3rd an interesting meeting of the Central Section was held at St. Michael's Hospital, Toronto. About sixty members were present and Mr. Hart Giffen occupied the chair. Dr. Shannon, Radiologist of St. Michael's, welcomed the members and an interesting programme started with an instructive talk on Abdominal Landmarks in Spleenography and Translumbar Aortagrams by Dr. Wilkinson. Mr. Pat Cardinal spoke on the photo timing apparatus in use at St. Michael's, illustrated by radiographs and by a demonstration scanning disc. This was further amplified by Mr. Joe Pritchard of Philips Industries,, who has the happy knack of making complicated problems of Physics appear simple. Mr. Lidkie of Toronto Western Hospital spoke on Radiography of the G.I. Tract using automatic Kv adjustment with spot-film work. This is accomplished in an ingenious manner by utilizing the increased spot-film/tube distance necessitated by a stouter patient to make a compensating change of Kv on a series of contacts in the screen "tower." Mr. Lidkie and Mr. Harry McLean of X-Ray & Radium Industries worked out this idea. The length of the programme precluded the showing of some movies which our service men members had kindly brought along.

Refreshments were served by the x-ray staff and following this a very interesting tour of the x-ray department took place. The star of this part of the programme was a sleek new Philips 1,000 ma machine with desk type control recently acquired by the x-ray department. A new tubestand with reflected light throwing an illuminated rectangle on the table, indicating film coverage at various appertures, was also examined with much interest. Another interesting development was an electron accelerated fluoroscope brought here by Mr. Pritchard from the recent C.A.R. Convention in Montreal. This gives a brighter screen image with far less ma., than the conventional fluoroscope.

An unexpected pleasure was the presence of Mr. Walter Whitehouse at the meeting. Mr. Whitehouse, once at the Montreal Neurological and later at Toronto General Hospital, went to a clinic in California some years ago and his many friends here welcomed the opportunity of meeting him again, although they regretted that the cause of his visit was the sudden illness of his father who had been visiting in him in California.

Over 90 attended the Spring 1954 meeting of this Section which was held at the Cancer Clinic, Hamilton General Hospital, on Friday, March 26th, 1954. The remarkable attendance was evidence of the expectation of a worthwhile evening.

Mr. Hart Griffin, R.T., was in the chair and as Dr. Green was unable to attend, Dr. H. Batley, Associate Director of the Cancer Clinic, was introduced to the gathering. Dr. Batley's warm and humorous welcome put all at ease and was a taste of many good things to follow.

Dr. R. J. Horsley, Physicist, unveiled to us "The Physics of the Cobalt Bomb." That very week, the Hamilton General Hospital received their "Cobalt 60 Bomb." Dr. Horsley's paper was profusely illustrated by slides showing the installation at H.G.H. from the ground up, literally. The specially planned addition to the Cancer Clinic was shown in all stages to completion and finally the transfer of the "Cobalt 60" from its "carrying case."

Projected drawings as well as pictures of the installation were shown and described in detail by Dr. Horsley. The power of this great weapon against disease was described and during the description, the attention of all present could almost be "felt."

The applause following Dr. Horsley's paper was spontaneous and sincere.

The second paper of the evening, "Beam Directed X-Ray Therapy," was very ably given by Mrs. Marion Walker, R.T., of the Hamilton Cancer Clinic. The slides as well as Mrs. Walker's paper, eloquently covered the subject and a new interest was created in us all.

While the foregoing lectures were still fresh in our memories, a very appropriate movie entitled "Moving Beam Therapy" was shown by courtesy of X-Ray and Radium Industries, Ltd.

A vote of sincere thanks was expressed by the Chairman to the Cancer Clinic and all those who had contributed to this excellent evening.

Mr. Burton McBride, R.T., in his capacity of Sectional Representative to the O.S.R., spoke a few words regarding a matter of interest to us all . . . "Registration by Legislation." An announcement was made that the Annual Meeting of the Ontario Society of Radiographers will be held in Hamilton on Saturday, May 29th, 1954. (See "The Bulletin" for the details.) A full report on the above subject will be presented at this meeting and all members of the O.S.R. are urged to attend.

## NEWS ITEMS FROM THE PROVINCES

Mr. J. Guthrie, R.T., chairman of the O.S.R. Convention Committee (1954), appealed for more volunteers to act as committee members at the forthcoming Joint Convention of New York State Society of X-Ray Technicians and our society. Remember the dates, October 14th, 15th and 16th. The place, Albany, N.Y.

A conducted tour of the Cancer Clinic was made and the newly installed "Cobalt 60" Therapy Machine displayed. The many charts, colour transparencies, etc., which were on display, held the attention of many.

An adequate and tasy lunch followed and once again Hamilton was made famous for its hospitality.

—A. ARTHUR KING, R.T.,
Sub-Editor.

### WESTERN SECTION

The first meeting of 1954 was held in St. Joseph's Hospital, London, on Thursday, Feb. 25th, with 40 in attendance.

Chairman, Mr. Don Anderson, R.T., introduced Dr. M. B. Hill, who, as Director of Radiology, St. Joseph's Hospital, welcomed the group. Dr. Hill spent a few minutes describing several Angiographs on display, which had been taken at St. Joseph's and told of the method used in that institution. Dr. Hill's remarks were all too brief, but because of a previous engagement he had to rush away. An expression of appreciation was made by the chairman for all present.

Mr. Charles DeRoche, R.T., of Victoria Hospital, gave a very interesting paper entitled "Cerebral Air Studies—Swedish Method." This method which is employed at Victoria Hospital, requires the injection of a minimal amount of oxygen and appears to be a method of preference.

Through the courtesy of Westinghouse of Canada, a film entitled, "Electronics at Work" was shown and held the interest of all in attendance.

Chairman Anderson reported briefly to the group on progress being made towards Registration by Legislation in Ontario.

Mr. Tom Patrick and Mr. Don Anderson were elected to the responsibility of representing the Western Section to the Executive of the Ontario Society. One or the other of these members will be required to attend business meetings, etc., of the O.S.R. and report to the Section.

Miss Adeline Escaf was elected Secretary of the Section to assist the chairman.

An invitation was given to the Section to hold its next meeting at District Memorial Hospital, Tillsonburg, and was accepted. Plans are now being completed to hold that meeting Saturday, May 15th, 1954.

A tour of the newly renovated Department of Radiology was made and the new equipment proudly displayed by the staff. Following this, delightful refreshments were served by the Sisters of St. Joseph and others and a worthwhile evening came to a close.

—A. ARTHUR KING, R.T.,
Sub-Editor.

### NORTHERN SECTION

The fourth meeting of the Northern Section was held in North Bay, at St. Joseph's Hospital, March 27th, with only 15 members present. A very interesting paper was given by Dr. C. H. Rorabeck of the Travelling Chest Clinic, North Bay, on the "Proper Identification of Patients." With the aid of chest films, he proved his point and showed us just how thoughtless we technicians can be!

Gerry Durette of St. Joseph's Hospital, Sudbury, gave a very good but short paper on "The Lumbar Spine" and demonstrated the routine views with some very excellent films. He showed some very interesting films taken on a child with inactive tuberculosis of the spine. Gerry was the first student in the Section to give a paper; we hope his enthusiam will encourage others to come forth and do their part.

We had hoped to hear papers from Mr. Herb Kruger of Copper Cliff Hospital and Dave Spence of Civic Hospital, North Bay. Mr. Kruger will give his at the meeting May 15th at Algoma Sanatorium.

The topic of fees was discussed and many favourable replies have come our way since the meeting. The possibility of sending a representative from this Section to the Albany Convention depends upon the co-operation of the members in this regard.

A reminder of the Gevaert awards and encouragement to write papers for *The Focal Spot.* and the Convention was talked about.

It was planned to have the next meeting in Sudbury, May 15th, at the Algoma Sanatorium. All are welcome.

A film, "The Dupont Story," was shown, through the courtesy of Mr. George Ross of C.I.L. A delicious luncheon was served by the Sisters of the Hospital.

A vote of thanks was expressed by the Chairman to the Sisters and to all those who had helped make the meeting a success.

—M. GLEASON, R.T.,
Chairman, Northern Sec.
Chairman.

## LAKEHEAD SECTION

At the January meeting of the Lakehead Division held at St. Joseph's General Hospital, Port Arthur, the annual elections were held and the following officers were elected: President, Mrs. J. Carniato, R.T.; Secretary-treasurer, Miss J. Coughlin, R.T.; Sub-Editor, Mr. J. Logan, R.T. Mr. J. Whatley, R.T., the outgoing president, handed over the reigns of office to Mrs. Carniato, R.T., who conducted the remainder of the meeting.

The business part of the meeting was followed by an interesting paper given by Mr. R. Gore, R.T., on the use of the Polaroid Unit during a Smith-Peterson hip pinning in the operating room. Two movies were shown and a delicious lunch was served by the staff of St. Joseph's General Hospital.

The Lakehead Division held its regular monthly meeting February 10th at McKellar General Hospital, Fort William, with Mrs. Carniato, R.T., presided. Two letters were read by Mr. and a new member, Miss Helen McKay, R.T., was introduced by Mrs. Carniato. Plans were discussed for a toboggan party to be held February 27th with everybody meeting at McKellar Hospital at 8.15 and returning to Mr. J. McGie's home after the tobogganing for refreshments. The party turned out to be very successful, the highlight of which was the spaghetti prepared by Mrs. Carniato.

The meeting was adjourned and the lunch served by the McKellar Hospital was enjoyed by all.

The Port Arthur General Hospital was the scene of the March 10th meeting of the Lakehead Division. Twelve members were present. In the absence of the president, Mr. J. Whatley, R.T., presided Two letters were read by Mr. R. Gore, R.T. The first was from Mr. Hart Griffin concerning the October convention of the Ontario Society; the second was from Mr. Bob Fisher regarding the Executive Meetings of the Ontario Society. Mr. Gore mentioned that he would like to see at least one paper submitted for the Gevaert Awards from our group.

After the business part of the meeting, a short demonstration showing the use of "brat boards" for immobilizing unco-operative children was given by Mr. J. Logan, R.T. Then followed a review of old C.S.R.T. examination papers by members of the staff of the Port Arthur General Hospital which included: Miss H. Pepper, Miss E. Brown, Miss R. Dykeman, Miss C. Gilders, R.T., and Mr. J. Whatley, R.T. Then a film on Atomic Medical Cases from Japan in World War II was shown. The evening was completed by a delicious lunch.

The April meeting was held at St. Joseph's General Hospital with 11 members present. Another new member, Mr. Bert Gomm, was introduced by Carmel Coghlan, R.T. A Spring party was suggested and the plans for it are to be brought up at the May meeting.

After the business part of the meeting, the staff of St. Joseph's General Hospital presented questions and answers from old C.S.R.T. examination papers. They included Miss C. Quinn, Miss J. Coughlin and Miss C. Coghlan, R.T. Two informative films were then shown followed by a lunch which was enjoyed by all.

News Items: Mr. John Lauzon, R.T., formerly at St. Joseph's General Hospital, Port Arthur is now on staff at the McKellar General Hospital, Fort William, and Miss Doreen Birston, R.T., formerly at St. Joseph's General Hospital, Port Arthur, is now at Toronto Western. We wish them success in their new positions.

—JOHN G. LOGAN, R.T.,
Sub-Editor.

## EASTERN SECTION

The Eastern Section of the Ontario Society of Radiographers held their spring meeting in the nurses' residence of the Kingston General Hospital on Saturday, May 1st.

Dr. W. A. Jones, the Chief Radiologist, was present to greet the assembly and Dr. Burr was in his usual good form. Sister MacPherson officiated as chairman and conducted the election for a new section head, Miss Amy Adams of Ottawa being elected.

The sixty-five people present heard Miss E. Ormrod of Ottawa Civic Hospital present her first technical paper demonstrating the value of "Soft-tissue Technique in Medical Radiography." This paper was exceptionally good, and all agreed that it was well presented. We hope Miss Ormrod will keep up the good work.

Dr. L. Fransman of Ongwanda Sanatorium

## NEWFOUNDLAND DIVISION
### C.S.R.T.

The Directors of the Newfoundland Tuberculosis Association are pleased to announce the following promotions within their staff:

Mr. Rex Matthews to be appointed to the post of Supervisor of Mass Surveys. Mr. Frederick Fitzgerald will succeed Mr. Matthews as Senior X-Ray Technician.

Mr. Matthews has been with the Association since June, 1946, during which time he has participated in practically every mass x-ray survey conducted by the Association in Newfound and Labrador. His experience as head x-ray technician aboard the M.V. "Christmas Seal" has familiarized him with every problem involved in mass surveys in coastal communities, and will be invaluable to him in his new appointment.

Mr. Fitzgerald began his duties as x-ray technician with the Association in October, 1947, and since then has assisted Mr. Matthews in carrying out the Association's extensive case finding programme. He and Mr. Matthews have made a most efficient team, and the Directors feel confident that the proposed mass x-ray surveys could be in no more conscientious or capable hands.

—ERNESTINE SHUTE, R.T.,
Sub-Editor.

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*ONT.—from p. 107*

gave an excellent paper on the value of "Tomographic Sections," their reason and purpose, especially where chest lesions are a question.

Dr. W. J. S. Melvin, F.R.C.S., orthopaedic surgeon of Kingston, demonstrated with films the value of the "Direction of Dye by Pressure" in doing arthrograms, and also "The Importance to the Orthopaedic Surgeon of X-raying Feet While Bearing Weight." He then spoke of the scoliosis case, treatment of primary and secondary curves, and the value of "standing" films for these cases.

Dr. Melvin has the rare quality of giving his ideas a humorous twist, and at the same time getting them across very forcefully.

Mr. Clarke, R.T., gave a very comprehensive paper on a method of injecting Lipiodol in bronchoscopic cases used at the Royal Ottawa Sanatorium, stressing the importance of speed combined with accuracy in these cases. The best positions to fill a particular lobe were demonstrated.

After the technical papers a draw was held for two door prizes . The first one went to Miss J. N. Walker of the Ottawa Civic Hospital, a "Handbook of Anatomy and Physiology"; the second to Mr. Hugh Menagh of Toronto, John Cahoon's splendid book on "Formulating X-Ray Technics."

Following the draw a very excellent sit-down supper was provided by the Kingston General Hospital.

A surprise feature was the showing of two x-ray movies—cinefluorographic films—produced at the Strong Memorial Hospital, Rochester, N.Y., in conjunction with the Eastman Kodak Company. One dealt with Cardioangiography—the injection of the heart with Diodrast—in which the entire examination could be seen in motion under the fluoroscope. The other film depicted an interesting collection of miscellaneous subjects—flexion of the cervical spine; percussion of the knee; swallowing with barium; cerebral arteriographs; the motion of the bones of the feet and even "making up" with Rugar, thus rendering the soft tissue visible on the fluoroscopic image.

Mr. Ray Travis, the Hospital's Technical Advisor, conducted an interesting tour of the Adviser, conducted an interesting tour of the department. All agreed that this was an outstanding meeting.

—HUGH J. MENAGH, R.T.

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**GENERAL ELECTRIC**

## QUEBEC SOCIETY OF X-RAY TECHNICIANS

A general meeting of the Quebec Society was held on Saturday afternoon, January 23rd, 1954, at the Northern Electric Company. We were pleased at the large number who attended as it was one of the winter's most bitter days. Dr. Milton G. Townsend, Medical Director of the Company, welcomed us. Dr. J. A. Blais, who is doing research work in rheumatology at Hotel Dieu, and is also on the part-time medical staff at Northern, spoke to us on some of his experiments in Evaluating X-Ray Bone Density. By stabilizing the factors and repeating films at intervals he is endeavouring to determine the effect of certain drugs on arthritic patients. This is a new field for x-ray and should prove a valuable and interesting one.

We were delighted that Mr. Paul Berty of Canadian Kodak Company had secured the film taken at the International Convention in June and for forty-five minutes we re-lived our Toronto experiences. It was an excellent film and we are most grateful to Kodak for taking it. After the meeting a delightful tea was served in the Northern cafeteria. Later the guests were shown through the modern Medical Department, which looks after the needs of over 8,000 employees of the Northern Electric Company.

We are pleased to note that Dr. G. Gill has again been chosen to represent the C.A.R., with the C.S.R.T.

A general meeting of the Quebec Society was held on Saturday afternoon, March 27th, in the Nurses' Residence of the Jewish General Hospital.

Dr. I. Sedlezky welcomed us, then gave a very interesting lecture on "Radioactive Isotopes." Mr. Donald Fiske thanked Dr. Sedlezki for his talk.

Certificates were presented to the successful candidates who wrote their examinations last fall, by Dr. Sedlezki. We are pleased to welcome into our society the following new members: Huguette Parent, Colette Plouffe, Yolande Garand, Barbara Morgan, Therese Hache, Rene Lippe, Vintha Dunn, Lorraine Tremblay, Therese Bellavance, Simonne Gagne, Madeleine Letendre, Lillian Karr, J. de Terregrosa, Robert Hall, Soeur Marie Du Divin Coeur.

After a short business meeting a delightful Nurses' Residence. Our thanks to Mrs. Legallais-Nurses' esidence. Our thanks to Mrs. Legallais-Payne and her staff for a very pleasant afternoon.

We are pleased that Mr. Gordon Greenfield of the Queen Elizabeth Hospital has accepted the chairmanship of the Committee to plan for the 1955 Canadian Convention, which is to be held in Montreal. Miss Germaine Perry of the Royal Victoria Hospital will be co-chairman. Great planning is under way and we are looking forward to being host to our fellow members from other Provinces.

Dr. G. Gill has been made a member of the Advisory Committee of the American College of Radiology to the American Society of X-Ray Technicians.

Our thanks are due to Miss Loraine Tremblay who is now acting as interpreter at our meetings and helping to keep things running much more efficiently and smoothly.

For some time we have felt that when the certificates are awarded to new members, it would be nice to have a social gathering and invite friends and parents of the successful candidates. Miss Carole Dunn has been chosen to head a committee to see to this and in the future we hope to make this event a memorable one for the newcomers.

—EDWINA BOA, R.N., R.T.,
Sub-Editor.

## LA SOCIETE DES TECHNICIANS EN R.X. DE LA PROVINCE DE QUEBEC

La 3ième assemblée générale a eu lieu le samedi 23 janvier 1954 à la Compagnie Northern Electric. Le docteur Townson a souhaité la plus cordiale bienvenue.

Mlle Germaine Violette, R.N., R.T., de l'Hôtel-Dieu de Montréal présenta le conférencier en français et Mlle Boa, R.N., R.T., le présenta en anglais; ce fut le docteur J. A. Blais, médecin attaché au service de la Compagnie Northern Electric, assistant professeur à l'Université de Montréal, médecin à l'Hôtel-Dieu de Montréal où il s'occupe de recherches en rhumatologie. Le sujet de sa conférence était "L'évaluation de la densité osseuse aux Rayons-X." Il fut remercié par Mlle Germaine Perry, R.T., de l'hôpital Royal Victoria.

M. Paul Berty, représentant de la Eastman Kodak, nous fit la surprise de présenter le film de la convention internationale tenue à Toronto en juillet dernier, film magnifique qui nous rappela tous les bons moments passés à Toronto. Merci beaucoup Monsier Paul Berty pour toutes les attentions délicates que vous avez envers la Société des Techniciennes en Radiologie de la Province de Québec.

Un excellent goûter fut servi.

Nous remercions bien cordialement les autorités de la Compagnie Northern Electric, le Docteur Townson ainsi que Mlle Boa, R.T., pour leur bonne hospitalité.

Toutes nos sincères félicitations vont au Docteur Guillaume Gill, radiologiste à l'Institut du Radium, à l'occasion de sa re-nomination comme représentant au C.A.R. auprès de la Société Canadienne des Techniciens en Radiologie, et aussi "Member of Advisory Committee of the American College of Radiology to A.S.X.T." Tours nos voeux très sincères et notre vive gratitude Docteur Gill.

Sincères félicitations au Docteur McKay, directeur du service de Radiologie de l'hôpital Général de Montréal, qui a été élu Président de la Société Canadienne de Radiologie.

Toutes nos félicitation et nos voeux de bonheur vont à Mlle Madeleine Letendre, R.T., à l'occasion de ses fiançailles avec M. P. E. Gérard, B.A., M.Sc.

Le 13 février avait lieu é la résidence des Infirmières de l'Hôpital Hôtel-Dieu de Montréal, une séance d'affaires, bien enthousiaste, pour le choix des Comités de la Convention Canadienne de 1955.

Nos plus sincères remerciements à la Révérende Mère Allard, supérieure, pour sa toujours grande générosité envers les Techniciens en Radiologie de la Province de Québec.

—ALICE PAQUIN, R.N., R.T.,
Rédactrice adjointe.

## SASKATCHEWAN DIVISION C.S.R.T.

### SASKATOON SECTION

The first monthly meeting of the New Year was held on Jan. 13th at City Hospital nurses' residence . Guest speaker for the evening, Dr. A. B. MacDonell, lectured on the construction and method of operation of the Sweet Eye Localizer. Two films on basic electricity were then shown and after a tasty supper the meeting was adjourned.

The February meeting was held on the 24th in the recreation hall of the D.V.A. Hospital. Dr. E. W. Spencer, guest speaker, delivered a lecture on Therapy. Plans were made for the continuation of this lecture at the next two monthly meetings. Following this two films on Electricity were shown to round off the evening. The meeting was adjourned after lunch was served.

On March 24th the technicians gathered at St. Paul's Hospital for their monthly meeting. Guest speaker, Dr. E. Brown, of the Cancer Clinic, presented the next phase of the lectures on Therapy. Plans for the forthcoming convention took up the remainder of the evening. Different committees were chosen for the convention and after lunch was served the meeting came to an end. —C. B. JOHNSON, R.T.,
Sub-Editor.

# TECHNICAL LITERATURE

STUDENT TRAINING CURRICULUM, C.S.R.T.—Mrs. Hood, Secretary-Treasurer, has a large number of copies of the above and anyone wishing to obtain a copy can do so by writing her. The cost is fifty cents per copy.

RADIOGRAPHY OF CHILDREN, by L. J. Cartwright, R.T. A limited number of copies of this 1953 International Convention Refresher Course booklet are still available and may be obtained from L. J. Cartwright, Hospital for Sick Children, Toronto, Ont., at one dollar per copy.

RADIOGRAPHIC TECHNICQUE. Darmon A. Rhinehart, A.M., M.D., F.A.C.R., Lea & Febiger, Philadelphia. (In Canada: The Macmillan Co. of Canada, Toronto.) 454 pages; 520 illustrations. 19 tables. Fourth Edition 1954. $8.50. (See review on page 102.)


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